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E	В	NONCON	FIGURATION CHANGE									
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		Th	THE The purpose of bo e Project Engin  HAND ach operation All the integra	this ATS xes, that teer: Joha LING AI on FM H according	L T FM S is will unne ( ND Hard g to	to specify the last van Es (Ton site as reconsidered that the last reconsid	RE INSTALLA be done wearing ing instructions done by qualifie ority to work the	TION ion of the TTCS van. ion to reorder sta TION g gloves and in d personnel.	eps			
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## 116 5. Page ATS 090127-1-R0 **AMS-02 TASK SHEET (ATS)** 4. ATS NO. **CONTINUATION PAGE** 6. MOD NO. VERIFICATION 20. OPER SEQ. NO. 21. OPERATIONS (Print, Type, or Write Legibly) 22. TECH 23. QA/DV **SCOPE** The purpose of the present document is to provide information and guidelines for the installation of the TTCB FM2 components on its support and the installation into the TTCB. The integration sequence are described in Figure 1 AMS Assembly Task Sheet (ATS) Continuation Rev 9/25/06 JH

# AMS-02 TASK SHEET (ATS) CONTINUATION PAGE 4. ATS NO. 6. MOD NO.

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#### **APPLICABLE DOCUMENTS**

The following documents in the latest applicable issue form a part of this plan to the extent specified herein:

AD	Document ID	Issue/Rev	Title
1	AMSTR-NLR-PR-021	6.4	TTCS Box Welding
			Procedure
2	ET5998-08-01	E/	ASSY TTCB P FM
3	ET6029-05-031	F/	ASSY HX FM S
4	ET6029-05-019	H/	HX FM P CLIP AND
			SUPPORT
5	ET5998-08-10	D/	TTCB FM Assembly base
6	AMSTR-NLR-PR-062	1.0	TTCB-S Box welding
			procedure

#### STANDARD AND SPECIAL TOOLS

For the hardware installation a standard tool shall be used.

Where the use of standard tooling is not possible, special tool may be employed. Each special tool has to be identified with its Drawing Number marked, in indelible way, on the same tool

All the tools have to be clean and free from dust and grease.

For the present installation only standard tools are needed

#### RUNNING TORQUE MEASUREMENT

In the present integration activity we have to consider several types of locking as coupling by inserts and few by locking features on the bolts.

This value is an output from Specification MIL-I-45914A see below table.

# 5. Page 4 of 116 AMS-02 TASK SHEET (ATS) 4. ATS NO. ATS 090127-1-R0 CONTINUATION PAGE 6. MOD NO.

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#### MIL-I-45914A

TABLE I. Internal thread self-locking torque (inch-pounds).

Insert Internal Thread Fine or Coarse	Maximum Locking Torque	Minimum Breakaway Torque
.086	2.5	.2
.112	5	.5
.138	10	1.0
.164	15	1.5
.190	18	2.0
.250	30	3.5
.3125	60	6.5
.375	80	9.5
.4375	100	14.0
.500	150	18.0
.5625	200	24.0
.625	300	32.0
.750	400	50.0
.875	600	70.0
1.000	800	90.0

#### Table 1: Running torque values according to MIL-I-45914A

Since it is a continuous torque it is necessary to measure it with an analogical torque wrench, obtaining the maximum torque applied during this operation. The Locking Torque value has to be written in the relative box in the Integration

The Locking Torque value has to be written in the relative box in the Integration Procedure Table and added to the Seating Torque required in the structural analysis, (and reported in the engineering drawings)

#### FINAL INSTALLATION TORQUE MEASUREMENT

Final Torque to be applied to each screw is the result of the sum of the Locking Torque (measured) and the Seating Torque prescribed from the structural analysis (and reported also on the engineering drawing).

The Seating torques to be applied for each screws are listed in this ATS The entire torque shall be applied using calibrated torque wrench

#### TORQUE (T)= SEATING TORQUE (ST) +LOCKING TORQUE (RT)

- SEATING TORQUE (from structural analysis)
- LOCKING (= RUNNING) TORQUE (measured)

#### 116 5. Page ATS 090127-1-R0 **AMS-02 TASK SHEET (ATS)** 4. ATS NO. **CONTINUATION PAGE** 6. MOD NO. VERIFICATION 20. OPER 21. OPERATIONS SEQ. NO. (Print, Type, or Write Legibly) 22. TECH 23. QA/DV LUBRICATION All these fasteners shall be installed in <u>LUBRICATED</u> condition (according to the structural analysis) The below Step by Step procedure, have to be followed for all the fittings to be used for the parts installation. STEP **OPERATION** Clean screws and washers in an Isopropyl Alcohol bath 2 Let the screws and washers dry on a clean towel 3 Perform a screws and washers visual Inspection 4 Install the HX-support assembly with the washers to the TTCB-P base plate 5 Add Koropron primer if indicated 5 Measure the Locking Torque and register the value in the Integration Procedure Tables The Integration Procedure Tables are part of the present document 6 Torque the bolts to the final torque values 1.1 WARNING: for TTCB installation reference drawings are: ET5998-08-DR-001-E-KW-ASSEMBLY TTCB FM.pdf ET5998-08-DR-002-D-KW-ASSY COVER.pdf ET5998-08-DR-003-C-KW-ASSY PLATES.pdf ET5998-08-DR-004-E-KW-ASSY TUBING.pdf ET5998-08-DR-005-E-KW-ASSY APS.pdf ET5998-08-DR-006-E-KW-ASSY DPS.pdf ET5998-08-DR-010-D-KW-ASSY BASE.pdf ET5998-08-DR-011-C-KW-SIDE PLATE.pdf ET5998-08-DR-012-A-KW-PP BOX.pdf ET5998-08-DR-013-C-KW-CONNECTOR PLATE.pdf ET5998-08-DR-014-F-KW-APS + DSP SUPPORT.pdfET5998-08-DR-015-0-KW-THERMAL WASHERS.pdf ET5998-08-DR-016-A-KW-BRACKET PP FRONT.pdf ET5998-08-DR-017-A-KW-BRACKET PP BACK.pdf AMS Assembly Task Sheet (ATS) Continuation Rev 9/25/06 JH

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	ET5998-08-DR-019-E-KW-TUBING.pdf			
	ET5998-08-DR-020-D-KW-AUXILIARY TOOL.pdf			
	ET5998-08-DR-021-C-KW-ANGLED PROFILE.pdf			
	ET5998-08-DR-022-C-KW-SPECIAL WELD FITTINGS.p	odf		
	ET5998-08-DR-023-A-KW-INTEGRATION START UP R	ADIATOR.pdf		
	ET5998-12-DR-001-A-KW-ASSY COLD ORBIT HEATER	R.pdf		
	ET5998-012-DR-004-C-KW-PRE HEATER.pdf Verify before use the availability of the approved dra	awing revision		

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pen this	ATS						
. INSTA	ALLATIO	N OF <b>PUMP CONTROLLER</b> (	ONTO THE	E TTCB BASE I	PLATE		
2.1	inspection	the TTCS PUMP CONTROLLER on of the parts to be installed; clearly I Alcohol and let the parts to be in	n the parts	to be installed v	vith		
2.2	and wasl	screws and washer to be used for her visual inspection; clean screw let screws and washers dry on a c	s and wash	ers in an Isoprop			
2.3		a visual inspection of the base f necessary clean them with Isopr	-		ess of all the		
2.4	Weight	all the hardware to be installed,	including	fasteners. Recor	rd the weight		
		ITEM	WEIGHT				
2.5	SCALE PN_		(	Cal Date			

			5. Page 8	of 1	116
	AMS-02 TASK SHEET (ATS)	4. ATS NO.		090127-1	
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2.6	WARNING: TTCB installation reference drawing of this ATS.  Verify before use the availability of the approved			22. TECH	23. QA/DV
2.6.1	Check the bill of material in the assembly drawing	g.			
2.6.2	Only when indicated in drawing apply a thin layer between washers and base plate and or componen		mer in		
	Koropron primer - PN Lot#	_ Exp. Date			
2.6.3	Install the indicated component on the TTCB base below.	e plate as shown	in the figure		
	(Screw) NAS1351N3-10				

Figure 4: Installation of PUMP CONTROLLER to base plate

#### 116 5. Page ATS 090127-1-R0 **AMS-02 TASK SHEET (ATS)** 4. ATS NO. **CONTINUATION PAGE** 6. MOD NO. VERIFICATION 20. OPER SEQ. NO. 21 OPERATIONS (Print, Type, or Write Legibly) 22. TECH 23. QA/DV Apply a thin layer of Grease, Braycote 601EF (C1), to the threads of each bolt 2.6.4 prior the installation (as reported on the assembly drawings). Braycote Grease - PN \_\_\_\_\_ Lot#\_\_\_ Exp. Date \_\_\_\_\_ 2.7 Install the fasteners as per figure 4 and record fasteners lot number (write by hand) Bolt/washer/nut and number NAS number LOT LOT# LOT# \_\_\_\_LOT#\_\_\_ \_\_\_\_\_LOT#\_\_\_ LOT# LOT# \_\_\_\_\_LOT#\_\_\_\_ \_\_\_\_\_LOT#\_\_\_ \_\_\_\_\_LOT#\_\_\_\_ 2.8 Torque the fasteners installed in the former step to the final torque value. Seating torque values are shown in below table. Torque (in\*lbf) Dash Number Max Min Screw 42.237 35.901 NAS1351N3-10 2.9 Check this value with the table at the end of this ATS. Locking torque shall be in between 2–18 inch\*lbf (size 0.190). 2.10 Check this value with Table 1 at the start of this ATS. Final torque shall be the seating torque ABOVE LOCKING TORQUE. 5% precision on torque.

## 10 116 5. Page ATS 090127-1-R0 **AMS-02 TASK SHEET (ATS)** 4. ATS NO. **CONTINUATION PAGE** 6. MOD NO. VERIFICATION 20. OPER SEQ. NO. 21. OPERATIONS (Print, Type, or Write Legibly) 22. TECH 23. QA/DV PC 1 Torque Wrench- Locking Torque (locking is the same as running torque) M# \_\_\_\_\_ Cal Due Date\_\_\_\_\_ Torque Wrench- Final Torque PN \_\_\_\_\_ M# \_\_\_\_ Cal Due Date\_\_\_\_\_ **Bolt indication (see figure above)** Locking Torque **Final Torque**

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	AMS-02 TASK SHEET (ATS)	4. ATS NO.		ATS (	)90127-1	-R0
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	Bolt indication (see figure above) Locking Tord	que 	Final To	orque		
2.11	End of online operation Pump Controller box					

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. INSTA	ALLATI(	ON OF <b>APS</b> ONTO THE TTCB B	SASE PLAT	ГЕ			
3.1	installe	the APS for installation. Perform d; clean the parts to be installed willed dry on the clean towel					
3.2	and wa	e screws and washer to be used for sher visual inspection; clean screw d let screws and washers dry on a	s and wash	ers in an Isoprop			
3.3		n a visual inspection of the base If necessary clean them with Isopa			ss of all the		
3.4	Weight	all the hardware to be installed,	including	fasteners. Recor	d the weight		
		ITEM	WEIGHT				
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3.6	of th	RNING: TTCB installation referents is ATS.  Sy before use the availability of the					

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3.6.1	Check the bill of material in the assembly drawing	g.		ZZ. TECH	23. QAVDV	_
3.6.2	Only when indicated in drawing apply a thin layer between washers and base plate and or componen		imer in			
	Koropron primer - PN Lot#	_ Exp. Date				
3.6.3	Install the indicated component on the TTCB base below.		in the figure			
	2 3 3 15.1 15.2 1somotric view		(Wash	vAS1352N er)NAS114 hermal Wa 0 x 4.4 x 3	9EN832F	
	(Screw) NAS1352NO6-3		\\[-	hermal Wa	ohom 1 f 1	+
				x 4.4 x 5	Sud-13.2	
	X 4				x	4
3.6.4	Figure 4: Installation of APS to base plate  Apply a thin layer of Grease, Braycote 601EF (CI prior the installation (as reported on the assembly Braycote Grease - PN Lot# F	drawings).				

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AMS-02 TASK SHEET (ATS				4. ATS NO.	ATS	090127-1	-R0
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3.7	Install the fasteners as per fi			s lot number (	write by	22. TECH	23. QA/DV
	hand) Bolt/washer/nut and number	NAS num	nber	LOT			
	LOT#						
	LOT#						
			LO	Γ#			
			LO	Γ#			
			LO	Γ#			
			LO	Γ#			
			LO	Γ#			
	LOT#						
	LOT#						
3.8	Torque the fasteners installed in the former step to the final torque value. Seating						
	torque values are shown in below table.						
		Torque	Torque (in*lbf)				
	Dash Number	<u> </u>		Min			
	Screw NAS1352N06-8	13.861	11.782	782			
	Screw NAS1352N08-14	24.944	21.203	3			
3.9	Check this value with the tal	ole at the end o	f this ATS.	<b>_</b>			
	Locking torque shall be in 1. Locking torque shall be in 1.		•	•			
3.10	Check this value with Table Final torque shall be the seat 5% precision on torque.			KING TORQU	JE.		

### 116 15 5. Page ATS 090127-1-R0 **AMS-02 TASK SHEET (ATS)** 4. ATS NO. **CONTINUATION PAGE** 6. MOD NO. VERIFICATION 20. OPER SEQ. NO. 21. OPERATIONS (Print, Type, or Write Legibly) 22. TECH 23. QA/DV APS C 1 APS\_C\_4 $APS_C_2$ APS\_BP\_1 APS\_BP\_3 APS\_BP\_4 APS BP 2 APS C 3 Torque Wrench- Locking Torque (locking is the same as running torque) M# \_\_\_\_\_ Cal Due Date\_\_ PN \_\_\_\_\_ Torque Wrench- Final Torque M# \_\_\_\_\_ Cal Due Date\_\_\_ **Bolt indication (see figure above)** Locking Torque **Final Torque** 3.11 End of online operation APS to base plate

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	AMS-02 TASK SHEET (ATS)			4. ATS NO.	ATS	090127-1	-R0	
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. INSTA	ALLATI	ON OF <b>DPS</b> ONTO THE TTCB B	ASE PLAT	ΓЕ				
4.1	installe	e the DPS for installation. Perform ed; clean the parts to be installed with alled dry on the clean towel		•				
4.2	and wa	Prepare screws and washer to be used for the part installation. Perform a screws and washer visual inspection; clean screws and washers in an Isopropyl Alcohol bath and let screws and washers dry on a clean towel						
4.3	1	m a visual inspection of the base. If necessary clean them with Isopa	-		ss of all the			
4.4	Weigh	t all the hardware to be installed,	including	fasteners. Recor	d the weight			
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	SCAL	Е						
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4.6	of th	RNING: TTCB installation referencies ATS.  fy before use the availability of the						

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4.6.1	Check the bill of material in the assembly drawing	g.			
4.6.2	Only when indicated in drawing apply a thin layer between washers and base plate and or component		mer in		
	Koropron primer - PN Lot#	_ Exp. Date			
4.6.3	Install the indicated component on the TTCB base below.	e plate as shown i	n the figure		
		(14		(Screw) N	A\$1352N06
	(Washer) NAS1149EN832R  Thermal Washer-15.1 10 x 4.4 x 3  Thermal Washer-15.2 10 x 4.4 x 5	Isometr	vic view		(2) (3) (15.1) (15.2)
	Figure 4: Installation of DPS to base plate				
4.6.4	Apply a thin layer of Grease, Braycote 601EF (Coprior the installation (as reported on the assembly		of each bolt		
	Braycote Grease - PN Lot# I	Exp. Date			

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	AMS-02 TASK SHEE	` '		4. ATS NO.	ATS	090127-1	-R0
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4.7	Install the fasteners as per fig	gure 4 and reco	ord fastene	rs lot number (	write by		
	hand) Bolt/washer/nut and number	mber NAS number LOT					
			LO	T#			
			LO	T#			
			LO	T#			
			LO	T#			
			LO	T#			
			LO	T#			
			LO	T#			
4.8	Torque the fasteners installed in the former step to the final torque value. Seating torque values are shown in below table.  Torque (in*lbf)						
	Dash Number		<u> </u>				
		Max	Min				
	Screw NAS1352N06-8	13.861	11.78	2			
	Screw NAS1352N08-14	24.944	21.20	3			
4.9	Check this value with the tab	le at the end o	of this ATS				
	Locking torque shall be in 1. Locking torque shall be in 1.		•	*			
4.10	Check this value with Table Final torque shall be the seat 5% precision on torque.				UE.		
	y Task Sheet (ATS) Continuation Rev 9/25/06 JH						

### 116 5. Page ATS 090127-1-R0 **AMS-02 TASK SHEET (ATS)** 4. ATS NO. **CONTINUATION PAGE** 6. MOD NO. VERIFICATION 20. OPER SEQ. NO. 21. OPERATIONS (Print, Type, or Write Legibly) 22. TECH 23. QA/DV DPS C 1 DPS C 2 DPS\_BP\_1 DPS BP 3 DPS\_C\_4 DPS C 3 Isometric view DPS BP 4 DPS BP 2 Torque Wrench- Locking Torque (locking is the same as running torque) PN \_\_\_\_\_ M# \_\_\_\_ Cal Due Date\_\_\_\_\_ Torque Wrench- Final Torque PN \_\_\_\_\_ M# \_\_\_\_ Cal Due Date\_\_\_\_\_ **Bolt indication (see figure above)** Locking Torque **Final Torque** 4.11 End of online operation DPS to base plate

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22. DOPER PROPERTY OF THE LOSSIAN SECRET OF THE STATE SECRET OF SECRET OF THE STATE SECRET OF SE		Al	•	ATS)	4. ATS NO.	ATS (	)90127-1-	-R0	
INSTALLATION OF PIPE BRACKET TO TICB BASE PLATE  5.1 Prepare the PIPE BRACKET for installation. Perform a visual inspection of the parts to be installed; clean the parts to be installed with Isopropyl Alcohol and let the parts to be installed; clean the parts to be installed and let the parts to be installed dry on the clean towel  5.2 Prepare screws and washer to be used for the part installation. Perform a screws and washer visual inspection; clean screws and washers in an Isopropyl Alcohol bath and let screws and washers dry on a clean towel  5.3 Perform a visual inspection of the base plate; check the cleanliness of all the inserts. If necessary clean them with Isopropyl Alcohol  5.4 Weight all the hardware to be installed, including fasteners. Record the weight    ITEM			CONTINUATION PAGE		6. MOD NO.				
INSTALLATION OF PIPE BRACKET TO TICB BASE PLATE  5.1 Prepare the PIPE BRACKET for installation. Perform a visual inspection of the parts to be installed; clean the parts to be installed with Isopropyl Alcohol and let the parts to be installed dry on the clean towel  5.2 Prepare screws and washer to be used for the part installation. Perform a screws and washer visual inspection; clean screws and washers in an Isopropyl Alcohol bath and let screws and washers dry on a clean towel  5.3 Perform a visual inspection of the base plate; check the cleanliness of all the inserts. If necessary clean them with Isopropyl Alcohol  5.4 Weight all the hardware to be installed, including fasteners. Record the weight  ITEM WEIGHT  SCALE  5.5 PN M# Cal Date  5.6 WARNING: TTCB installation reference drawings are as indicated at the start of this ATS. Verify before use the availability of the approved drawing revision									
Prepare the PIPE BRACKET for installation. Perform a visual inspection of the parts to be installed; clean the parts to be installed with Isopropyl Alcohol and let the parts to be installed dry on the clean towel    Prepare screws and washer to be used for the part installation. Perform a screws and washer visual inspection; clean screws and washers in an Isopropyl Alcohol bath and let screws and washers dry on a clean towel    Perform a visual inspection of the base plate; check the cleanliness of all the inserts. If necessary clean them with Isopropyl Alcohol    Weight all the hardware to be installed, including fasteners. Record the weight    ITEM	SEQ. NO.	INICTA			DASE DI ATE		22. TECH	23. QA/DV	
parts to be installed; clean the parts to be installed with Isopropyl Alcohol and let the parts to be installed dry on the clean towel  5.2 Prepare screws and washer to be used for the part installation. Perform a screws and washer visual inspection; clean screws and washers in an Isopropyl Alcohol bath and let screws and washers dry on a clean towel  5.3 Perform a visual inspection of the base plate; check the cleanliness of all the inserts. If necessary clean them with Isopropyl Alcohol  Weight all the hardware to be installed, including fasteners. Record the weight    ITEM   WEIGHT	) <b>.</b>	INSTA	LEATION OF THE BR	ACKET TO TICE	DASETLATE				
and washer visual inspection; clean screws and washers in an Isopropyl Alcohol bath and let screws and washers dry on a clean towel  5.3 Perform a visual inspection of the base plate; check the cleanliness of all the inserts. If necessary clean them with Isopropyl Alcohol  5.4 Weight all the hardware to be installed, including fasteners. Record the weight    TTEM	5.1	parts to	be installed; clean the pa	rts to be installed w					
inserts. If necessary clean them with Isopropyl Alcohol  Weight all the hardware to be installed, including fasteners. Record the weight  ITEM WEIGHT  SCALE  SCALE  PN M# Cal Date  WARNING: TTCB installation reference drawings are as indicated at the start of this ATS.  Verify before use the availability of the approved drawing revision	5.2	and wa	and washer visual inspection; clean screws and washers in an Isopropyl Alcohol						
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SCALE  5.5 PN M# Cal Date  5.6 WARNING: TTCB installation reference drawings are as indicated at the start of this ATS.  Verify before use the availability of the approved drawing revision	5.4	Weigh	t all the hardware to be	installed, including	fasteners. Recor	d the weight			
SCALE  5.5 PN M# Cal Date  5.6 WARNING: TTCB installation reference drawings are as indicated at the start of this ATS.  Verify before use the availability of the approved drawing revision									
5.5 PN M# Cal Date  5.6 WARNING: TTCB installation reference drawings are as indicated at the start of this ATS.  Verify before use the availability of the approved drawing revision			ITEM	WEIGHT					
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5.5 PN M# Cal Date  5.6 WARNING: TTCB installation reference drawings are as indicated at the start of this ATS.  Verify before use the availability of the approved drawing revision									
5.5 PN M# Cal Date  5.6 WARNING: TTCB installation reference drawings are as indicated at the start of this ATS.  Verify before use the availability of the approved drawing revision									
5.5 PN M# Cal Date  5.6 WARNING: TTCB installation reference drawings are as indicated at the start of this ATS.  Verify before use the availability of the approved drawing revision									
5.5 PN M# Cal Date  5.6 WARNING: TTCB installation reference drawings are as indicated at the start of this ATS.  Verify before use the availability of the approved drawing revision									
5.5 PN M# Cal Date  5.6 WARNING: TTCB installation reference drawings are as indicated at the start of this ATS.  Verify before use the availability of the approved drawing revision									
5.5 PN M# Cal Date  5.6 WARNING: TTCB installation reference drawings are as indicated at the start of this ATS.  Verify before use the availability of the approved drawing revision									
5.5 PN M# Cal Date  5.6 WARNING: TTCB installation reference drawings are as indicated at the start of this ATS.  Verify before use the availability of the approved drawing revision									
5.5 PN M# Cal Date  5.6 WARNING: TTCB installation reference drawings are as indicated at the start of this ATS.  Verify before use the availability of the approved drawing revision									
5.6 WARNING: TTCB installation reference drawings are as indicated at the start of this ATS.  Verify before use the availability of the approved drawing revision		SCAL	E						
of this ATS.  Verify before use the availability of the approved drawing revision	5.5	PN _	M#		Cal Date				
of this ATS.  Verify before use the availability of the approved drawing revision									
5.6.1 Check the bill of material in the assembly drawing.	5.6	of th	is ATS.	_					
	5.6.1	Che	ck the bill of material in th	ne assembly drawing	<u>.</u>				

			5. Page 21	of 110	6
	AMS-02 TASK SHEET (ATS)	4. ATS NO.		090127-1-R	
	CONTINUATION PAGE	6. MOD NO.			
20. OPER SEQ. NO.				VERIFICAT	
5.6.2	Only when indicated in drawing apply a thin layer between washers and base plate and or componen		mer in	22. TECH 2	23. QA/DV
	Koropron primer - PN Lot#	_ Exp. Date			
5.6.3	Install the indicated component on the TTCB base below.	e plate as shown	in the figure		
	(Screw)NAS1352N08-8		(Screw )NASI	352N06-6 ]	4
	Figure 4: Installation of PIPE BRACKETS to bas	e plate			
5.6.4	Apply a thin layer of Grease, Braycote 601EF (C1 prior the installation (as reported on the assembly		of each bolt		
	Braycote Grease - PN Lot# F	Exp. Date			

				5. Page 22		16
	• •		4. ATS NO.	ATS	090127-1	-R0
CONTINUATION	PAGE		6. MOD NO.			
21. OPERATIONS (Print. Type, or Write Legibly)						CATION
1			ers lot number (	write by	22. TECH	23. QA/DV
· /	er NAS n	umber	LOT			
		Ι (	ОТ#			
		L0	OT#			
		L0	OT#			
	LOT#					
		LO	OT#			
		L	OT#			
		ner step to th	ne final torque v	alue. Seating		
		(in*lbf)	7			
Dash Number	_	<u>, , , , , , , , , , , , , , , , , , , </u>				
Screw NAS1352N08-8	24.944	21.203				
Screw NAS1352N06-6	13.861	11.782				
	. 11	1 6.1	a			
Check this value with the	table at the end	d of this ATS	S.			
				JE.		
	Torque the fasteners instal torque values are shown in   Dash Number  Screw  NAS1352N08-8  Screw  NAS1352N06-6  Check this value with the Locking torque shall be in Locking torque shall be the serious content of the serious conte	Torque the fasteners installed in the form torque values are shown in below table.    Dash Number   Max	Torque the fasteners installed in the former step to the torque values are shown in below table.    Dash Number   Max   Min	CONTINUATION PAGE    21. OPERATIONS (Print. Type. or Write Legibly)	AMS-02 TASK SHEET (ATS) CONTINUATION PAGE    A. ATS NO.	AMS-02 TASK SHEET (ATS) CONTINUATION PAGE    A ATS NO.

## 116 5. Page ATS 090127-1-R0 **AMS-02 TASK SHEET (ATS) CONTINUATION PAGE** 6. MOD NO. VERIFICATION 20. OPER SEQ. NO. 21. OPERATIONS (Print, Type, or Write Legibly) 22. TECH 23. QA/DV PB\_BP\_2 PC\_3 PC 4 PB\_BP\_3 PB\_BP\_1 - (Screw )NAS1352N06-6 (Screw)NAS1352N08-8 X4Torque Wrench- Locking Torque (locking is the same as running torque) Torque Wrench- Final Torque PN \_\_\_\_\_ M# \_\_\_\_ Cal Due Date\_\_\_\_\_ **Bolt indication (see figure above)** Locking Torque **Final Torque**

# 24 116 5. Page ATS 090127-1-R0 **AMS-02 TASK SHEET (ATS)** 4. ATS NO. **CONTINUATION PAGE** 6. MOD NO. VERIFICATION 20. OPER SEQ. NO. 21. OPERATIONS (Print, Type, or Write Legibly) 22. TECH 23. QA/DV Bolt indication (see figure above) Locking Torque **Final Torque** End of online operation PIPE BRACKET to base plate 5.11

			5. Page 25	of 1	.16			
	AMS-02 TASK SHEET (ATS)		ATS (	)90127-1	-R0			
	CONTINUATION PAGE	6. MOD NO.						
20. OPER SEQ. NO.	21. OPERATIONS (Print, Type, or Write Legibly)				CATION 23. QA/DV			
				22. TECH	20. 47757			
. INSTA	ALLATION OF <b>PIPE BRACKET TO</b> TTCB CO	VER						
6.1	Prepare the PIPE BRACKET for installation. Per parts to be installed; clean the parts to be installed the parts to be installed dry on the clean towel							
6.2	Prepare screws and washer to be used for the part installation. Perform a screws and washer visual inspection; clean screws and washers in an Isopropyl Alcohol bath and let screws and washers dry on a clean towel							
6.3		Perform a visual inspection of the COVER; check the cleanliness of all the RIVNUTS. If necessary clean them with Isopropyl Alcohol						
6.4	Weight all the hardware to be installed, include	ing fasteners. Recor	d the weight					
	ITEM WEIG	HT						
	SCALE							
6.5	PN M#	Cal Date						
6.6	WARNING: TTCB installation reference draw of this ATS.  Verify before use the availability of the approv							
	verify before use the availability of the approv	ca drawing revision						

			5. Page 26	of 116	
	AMS-02 TASK SHEET (ATS)	4. ATS NO.	ATS	090127-1-R0	
	CONTINUATION PAGE	6. MOD NO.			
20. OPER	21. OPERATIONS			VERIFICATION	
6.6.1	(Print, Type, or Write Legibly)  Check the bill of material in the assembly drawing	<u>5</u> .		22. TECH 23. QA/D	<u>V</u>
6.6.2	Only when indicated in drawing apply a thin layer between washers and base plate and or componen		mer in		
	Koropron primer - PN Lot#	_ Exp. Date			
6.6.3	Install the indicated component on the TTCB base below.	e plate as shown i	n the figure		
6.6.4	Figure 4: Installation of PIPE BRACKETS to TTC  Apply a thin layer of Grease, Braycote 601EF (C) prior the installation (as reported on the assembly  Braycote Grease - PN Lot# F	, to the threads of drawings).			

					5. Page 27	of 1	16
	AMS-02 TASK SH			4. ATS NO.	ATS	090127-1	-R0
	CONTINUATION	N PAGE		6. MOD NO.			
20. OPER SEQ. NO.		21. OPERATIONS (Print, Type, or Write Legibly)					CATION 23. QA/DV
6.7	Install the fasteners as pe	er figure 4 an	d record faste	ners lot number (v	vrite by		
	hand) Bolt/washer/nut and num	nber NA	S number	LOT			
			]	LOT#			
				 LOT#			
				LOT#			
				LOT#			
				LOT#			
			]	LOT#			
			]	LOT#			
			]	LOT#			
			]	LOT#			
		11 11 1 0		.1 (* 1	1 0 1		
6.8	Torque the fasteners installed in the former step to the final torque value. Seating torque values are shown in below table.						
		Tomas	. /in*1hf\	1			
	Dash Number		(in*lbf)				
	G	Max	Min	-			
	Screw NAS1352N06-12	13.861	11.782				
6.9	Check this value with the	e table at the	end of this A	ΓS.			
	Locking torque shall be	in <b>1.0-10 inc</b> l	h*lbf (size 0.1	138)			
6.10	Check this value with Ta Final torque shall be the 5% precision on torque.				E.		
							1

## 116 28 5. Page ATS 090127-1-R0 **AMS-02 TASK SHEET (ATS) CONTINUATION PAGE** 6. MOD NO. VERIFICATION 20. OPER SEQ. NO. 21. OPERATIONS (Print, Type, or Write Legibly) 22. TECH 23. QA/DV PC\_COV\_1 PC\_COV\_2 Torque Wrench- Locking Torque (locking is the same as running torque) M# \_\_\_\_\_ Cal Due Date\_\_\_ Torque Wrench- Final Torque PN \_\_\_\_\_ M# \_\_\_\_ Cal Due Date\_\_\_\_\_ **Bolt indication (see figure above)** Locking Torque **Final Torque** 6.11 **End of online operation PIPE BRACKET to COVER**

					5. Page 29	of 1	16	
	AMS-02 TASK SHEET (ATS) 4. ATS NO.			4. ATS NO.	ATS	090127-1	-R0	
		CONTINUATION PAGE		6. MOD NO.				
20. OPER SEQ. NO.	21. OPERATIONS (Print, Type, or Write Legibly)				VERIFIC 22. TECH	CATION 23. QA/DV		
						22. 12011	20. 47151	
. INSTA	ALLATION	N OF ACCU BRACKET TO A	CCU COL	LAR				
7.1	Prepare the ACCU BRACKET for installation. Perform a visual inspection of the parts to be installed; clean the parts to be installed with Isopropyl Alcohol and let the parts to be installed dry on the clean towel							
7.2	and wash	Prepare screws and washers to be used for the part installation. Perform a screws and washer visual inspection; clean screws and washers in an Isopropyl Alcohol bath and let screws and washers dry on a clean towel						
7.3		Perform a visual inspection of the COLLAR; check the cleanliness of all the THREADED HOLES. If necessary clean them with Isopropyl Alcohol						
7.4	Weight a	all the hardware to be installed,	including	fasteners. Recor	d the weight			
	_							
	I	TEM	WEIGHT					
	SCALE							
7.5	PN	M#		Cal Date				
7.6	of this							
	Verity	before use the availability of the	approved of	drawing revision				

			5. Page 30	of 116
	AMS-02 TASK SHEET (ATS)	4. ATS NO.	ATS	090127-1-R0
	CONTINUATION PAGE	6. MOD NO.		
20. OPER SEQ. NO.				VERIFICATION  22. TECH 23. QA/DV
7.6.1	Check the bill of material in the assembly drawing	5.		
7.6.2	Only when indicated in drawing apply a thin layer between washers and base plate and or component		mer in	
	Koropron primer - PN Lot#	_ Exp. Date		
7.6.3	Install the indicated component on the TTCB base below.	e plate as shown i	in the figure	
7.6.4	(Screw) NAS1351N08-LB14 (Washer) NAS1149EN832R  Threaded collar  Figure 4: Installation of ACCUMULATOR BRAC Apply a thin layer of Grease, Braycote 601EF (CI prior the installation (as reported on the assembly Braycote Grease - PN Lot# E	, to the threads drawings).	of each bolt	

					5. Page 31	of 1	16
	AMS-02 TASK SHEE	` ,		4. ATS NO.	ATS	090127-1	-R0
	CONTINUATION PAGE			6. MOD NO.			
20. OPER		21. OPERAT				VERIFI	CATION
SEQ. NO.		(Print, Type, or Wr	rite Legibly)			22. TECH	23. QA/DV
7.7	Install the fasteners as per finand) Bolt/washer/nut and number	NAS nun	nber LO' LO' LO' LO' LO' LO'	T#T#T#T#T#T			
			LO	T#			
7.8	Torque the fasteners installe torque values are shown in b	elow table.	r step to the	final torque v	alue. Seating		
	Dash Number	Max	Min				
	Screw NAS1351N08-LB14	26.863	22.83	4			
7.9	Check this value with the tal	ole at the end o	of this ATS.				
	Locking torque shall be in 1. Locking is on the bolt side.	.5-15 inch*lbf	(size 0.164	))			
7.10	Check this value with Table Final torque shall be the sear 5% precision on torque.				JE.		

## 116 5. Page ATS 090127-1-R0 **AMS-02 TASK SHEET (ATS) CONTINUATION PAGE** 6. MOD NO. VERIFICATION 20. OPER SEQ. NO. 21. OPERATIONS (Print, Type, or Write Legibly) 22. TECH 23. QA/DV Accu-Col\_5 Accu-Col\_4 Accu-Col\_6 Accu-Col\_3 Accu-Col 7 Accu-Col 2 Accu-Col\_1 Torque Wrench- Locking Torque (locking is the same as running torque) Torque Wrench- Final Torque PN \_\_\_\_\_ M# \_\_\_\_ Cal Due Date\_\_\_\_ **Bolt indication (see figure above)** Locking Torque **Final Torque**

7.11

End of online operation ACCU BRACKET to COLLAR

					5. Page 33	of 1	16
	AMS-02 TASK SHEET (ATS) 4. ATS NO.				090127-1	-R0	
	CONTINUATION PAGE  6. MOD NO.						
20. OPER SEQ. NO.	21. OPERATIONS (Print, Type, or Write Legibly)			VERIFICATION VERIF	CATION 23. QA/DV		
. INSTA	ALLATI	ON OF <b>PIPE CLAMP TO ACCU</b>	J <b>BRACKI</b>	ETS			
8.1	Prepare the ACCU PIPE CLAMP for installation. Perform a visual inspection of the parts to be installed; clean the parts to be installed with Isopropyl Alcohol and let the parts to be installed dry on the clean towel						
8.2	Prepare screws and washers to be used for the part installation. Perform a screws and washer visual inspection; clean screws and washers in an Isopropyl Alcohol bath and let screws and washers dry on a clean towel						
8.3	1	m a visual inspection of the ACCU SERTS. If necessary clean them wi			nliness of all		
8.4	Weight all the hardware to be installed, including fasteners. Record the weight						
	SCAL	ITEM	WEIGHT				
8.5	SCAL PN_		(	Cal Date			
8.6	of th	RNING: TTCB installation referen is ATS. fy before use the availability of the	_				

	5. Page 34			of 116		
AMS-02 TASK SHEET (ATS) 4. ATS NO.			ATS	090127-1-R0		
	CONTINUATION PAGE	6. MOD NO.				
20. OPER SEQ. NO.				VERIFICATION  22. TECH 23. QA/DV		
8.6.1	Check the bill of material in the assembly drawing	22. IEON 23. QAVDV				
8.6.2	Only when indicated in drawing apply a thin layer between washers and base plate and or component					
	Koropron primer - PN Lot#	Exp. Date				
8.6.3	Install the indicated component on the TTCB base below.	plate as shown i	in the figure			
	(Screw) NAS1351N06-10					
8.6.4	Figure 4: Installation of ACCU PIPE CLAMP TO  Apply a thin layer of Grease, Braycote 601EF (C1)	, to the threads				
	prior the installation (as reported on the assembly	drawings).				
	Braycote Grease - PN Lot# E	Exp. Date				

					5. Page	35		16	
AMS-02 TASK SHEET (ATS) 4. ATS NO.					ATS (	090127-1	-R0		
CONTINUATION PAGE  6. MOD NO.									
20. OPER SEQ. NO.	21. OPERATIONS (Print, Type, or Write Legibly)					VERIFIC 22. TECH	CATION 23. QA/DV		
8.7	Install the fasteners as per figure 4 and record fasteners lot number (write by						22. 120.1	20. 47727	
	hand) Bolt/washer/nut and number NAS number LOT								
	Doit/ washer/ nut and number								
	LOT#								
	LOT#								
	LOT#								
	LOT#_								
	LOT#								
	LOT#								
	LOT#								
	LOT#								
	LOT#								
			L	O1#					
8.8	Torque the fasteners installe	d in the former	sten to tl	ne final torgi	ie value. S	eating			
	torque values are shown in b		F	1		8			
		Torque (in*lbf)							
	Dash Number	Max	Min						
	Screw								
	NAS1351N06-10	15.662	5.662   13.3						
8.9	Check this value with the table at the end of this ATS.								
	Locking torque shall be in 1-10 inch*lbf (size 0.138)								
0.10									
8.10	Check this value with Table 1 at the start of this ATS. Final torque shall be the seating torque ABOVE LOCKING TORQUE. 5% precision on torque.								

## 116 5. Page ATS 090127-1-R0 **AMS-02 TASK SHEET (ATS)** 4. ATS NO. **CONTINUATION PAGE** 6. MOD NO. VERIFICATION 20. OPER SEQ. NO. 21. OPERATIONS (Print, Type, or Write Legibly) 22. TECH 23. QA/DV Accu 1.1 Accu 1.2 Accu 1.4 Torque Wrench- Locking Torque (locking is the same as running torque) PN \_\_\_\_\_ M# \_\_\_\_ Cal Due Date\_\_\_\_\_ Torque Wrench- Final Torque PN \_\_\_\_\_ M# \_\_\_\_ Cal Due Date\_\_\_\_\_ **Bolt indication (see figure above)** Locking Torque **Final Torque** 8.11 **End of online operation PIPE CLAMP to ACCU BRACKETS**

						25		1.0
	ΔN	/IS-02 TASK S	SHFFT (ATS)		4. ATS NO.	5. Page 37 ATS	of 1 090127-1	16 -R0
	7 111	CONTINUATION	• •		6. MOD NO.			
20. OPER			21. OPEF	RATIONS	U. INIOD INO.		VERIFIC	CATION
SEQ. NO.			(Print, Type, or				22. TECH	23. QA/DV
9.1	Prepare	e the ACCU PIF	ELTIER TO ACC PE CLAMP for RE to be re-torqued;			ual		
9.2	Perform	n a visual inspe	ction of the ACCU			unliness of all	l l	
9.3	Weigh	t all the hardwa	are to be installed	, including	fasteners. Recor	d the weight		
		ITEM		WEIGHT				
9.4	SCAL PN_	E	M#	(	Cal Date			
9.5	of th	is ATS.	installation referer					
9.5.1	Chec	ck the bill of ma	terial in the assem	bly drawing	5.			

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	AMS-02 TASK SHEET (A	ATS)	4. ATS NO.	ATS (	)90127-1-R0
	CONTINUATION PAGE		6. MOD NO.		
20. OPER SEQ. NO.		21. OPERATIONS (Print, Type, or Write Legibly)			VERIFICATION  22. TECH 23. QA/DV
9.5.2	Check the indicated componer	nts are installed as sl	hown in the figur	e below.	
	(Screw) NAS1351N08-12 (Washer) NAS1149E N832E (Insert) MS21209F0820	k			
	Figure 4: Installation of PELT	TIER TO ACCU SAI	DDLE		
9.5.3	Apply a thin layer of Grease, prior the installation (as report CHECK WITH PROJECT EN	Braycote 601EF (C1 ted on the assembly	, to the threads	of each bolt	
	Braycote Grease - PN	Lot# F	Exp. Date		
9.6	Install the fasteners as per figure hand) Bolt/washer/nut and number		LOT OT# OT#		

						5. Page 39		16
	AMS-02 TASK SHEE	` '		4. AT	S NO.	ATS (	)90127-1	-R0
	CONTINUATION PA	.GE		6. MO	D NO.			
20. OPER SEQ. NO.		21. OPERATI (Print, Type, or Wri				-	VERIFIC 22. TECH	CATION 23. QA/DV
9.7	Torque the fasteners installed torque values are shown in b		step to th	e final t	orque va	lue. Seating	22. 720.1	25. 4. 15.
	Donk Normalian	Torque	(in*lbf)					
	Dash Number	Max	Miı	1				
	Screw NAS1351N08-12	26.863	22.83	34				
9.8	Check this value with the tal	ole at the end or	f this AT	S.				
	Locking torque shall be in 1.	5-15 inch*lbf	(size 0.16	<b>54</b> )				
9.9		t 1.2 Pel  t 1.2 Pel  :_1.4 Pelt_  orque (locking i	t_2.1 t_2.3 is the sam Cal	Pelt 2.1  Pelt  Pelt  Due Da	2 2.4 ning toro	que)		

				5. Page 40	of 116
	AMS-02 TASK SHEET (ATS	3)	4. ATS NO.	ATS	090127-1-R0
	CONTINUATION PAGE				
	331111131111111111111111111111111111111		6. MOD NO.		
20. OPER		21. OPERATIONS			VERIFICATION
SEQ. NO.	(Print,	Type, or Write Legibly)			22. TECH 23. QA/DV
9.10	Bolt indication (see figure above)	Locking Torqu		nal Torque	ZZ. TECH Z3. QAVDV
AMS Assembly	y Task Sheet (ATS) Continuation Rev 9/25/06 JH				

					5. Page 41	of 1	16			
	Al	MS-02 TASK SHEET (ATS)		4. ATS NO.		090127-1				
		CONTINUATION PAGE		6. MOD NO.						
20. OPER		21. OPER.	ATIONS	L		VERIFIC	CATION			
SEQ. NO.		(Print, Type, or	Write Legibly)			22. TECH	23. QA/DV			
0.	1	ALLATION OF TTCS PRIMARY ARY BASE PLATE	ACCUMU	JLATOR ONTO	ТНЕ ТТСВ					
	FKIM	ART BASE FLATE								
10.1	parts to	e the TTCS Accumulator for installobe installed; clean the parts to be its to be installed dry on the clean to	installed w							
10.2	and wa	e screws and washer to be used for asher visual inspection; clean screw and let screws and washers dry on a	s and wash	ers in an Isoprop						
10.3		Perform a visual inspection of the base plate; check the cleanliness of all the inserts. If necessary clean them with Isopropyl Alcohol								
10.4	Weight all the hardware to be installed, including fasteners. Record the weight									
		ITEM	WEIGHT							
	SCAL	F								
10.5				Cal Data						
10.5	PN _	M#		Cal Date						

	AMS-02 TASK SHEET (ATS)	4. ATS NO.	ATS	090127-1	-R0
	CONTINUATION PAGE	6. MOD NO.			
20. OPER SEQ. NO.	21. OPERATIONS (Print, Type, or Write Legibly)	-	'	VERIFIC 22. TECH	CATION 23. QA/DV
10.6	WARNING: for TTCB installation reference dra of this ATS.  Verify before use the availability of the approve	-		22. ILOH	23. QAVDV
10.6.1	Check the bill of material in the assembly drawi		П		
10.6.2	Only when indicated in drawing apply a thin lay between washers and base plate and or compone	ent.			
	Koropron primer - PN Lot#	Exp. Date			
10.6.3	Install the indicated component on the TTCB babelow.	se plate as shown	in the figure		
	(Screw)NAS1351N3-16  (Washer)NAS1149E0363R  THERMAL WASHER-15.3 10x5x3				

					5. Page 43		116
	AMS-02 TASK SHEET	` '	4.	ATS NO.	ATS	090127-1	-R0
	CONTINUATION PAG	iE	6.	MOD NO.			
). OPER		21. OPERAT					ICATION
10.6.4	Apply a thin layer of Grease prior the installation (as rep		01EF (C1), to tl		of each bolt	22. TECH	23. QA/D\
	Braycote Grease - PN	Lot#	Exp. D	ate			
10.7	Install the fasteners as per figure hand) Bolt/washer/nut and number	are 4 and reco		number (	write by		
			LOT#_				
			 LOT#				
•			LOT#_				
•			LOT#				
•			LOT#				
			LOT#				
	<del></del>		LOT# LOT#				
	<del></del>						
			LOT# LOT#				
			LO1#				
10.8	Torque the fasteners installed torque values are shown in bel		step to the fina	l torque v	alue. Seating		
	7 1 1 1	Torque	(in*lbf)				
	Dash Number	Max	Min				
	Screw NAS1351N3-16	42.237	35.901				
10.9	Check this value with the table	e at the end o	f this ATS				
10.7							
	Locking torque shall be in bet	ween <b>2 – 18</b> i	inch*lbf. (size	0.190")			

			5. Page 44		.16
	AMS-02 TASK SHEET (ATS)	4. ATS NO.	ATS	090127-1	-R0
	CONTINUATION PAGE	6. MOD NO.			
20. OPER SEQ. NO.	21. OPERATIONS (Print, Type, or Write Legibly)			VERIFIC 22. TECH	CATION 23. QA/DV
10.10	Check this value with Table 1 at the start of this ATS Final torque shall be the seating torque ABOVE LOG 5% precision on torque.		E.		
	Accu_Br1.2 Accu_Br1.1 Accu_B  Accu_Br1.4 Accu_Br1.3 Accu_Br2.  Figure: Accumulator bolt indication	4 Accu_Br			
	Torque Wrench- Locking Torque (locking is the same PN M# Cal				
	Torque Wrench- Final Torque				
	PN M# Cal	Due Date			
	Bolt indication (see figure above) Locking Torqu				

# 45 116 5. Page ATS 090127-1-R0 **AMS-02 TASK SHEET (ATS)** 4. ATS NO. **CONTINUATION PAGE** 6. MOD NO. VERIFICATION 20. OPER SEQ. NO. 21. OPERATIONS (Print, Type, or Write Legibly) 22. TECH 23. QA/DV Bolt indication (see figure above) Locking Torque **Final Torque** 10.10 1 End of online operation accumulator

					5. Page 46		16
	Al	MS-02 TASK SHEET (ATS)		4. ATS NO.	ATS (	)90127-1	-R0
		CONTINUATION PAGE		6. MOD NO.			
20. OPER SEQ. NO.		21. OPERA (Print, Type, or V				VERIFIC 22. TECH	CATION 23. QA/DV
1. 11.1 11.2	Prepare the par let the Prepare and wa bath ar	FALLATION OF PREHEATER (or instate to be installed; clean the parts to parts to be installed dry on the clean escrews and washer to be used for asher visual inspection; clean screwed let screws and washers dry on a common of the base. If necessary clean them with Isoprocessors	DNTO THE allation. Per be installed in towel the part inst is and wash clean towel	rform a visual ins d with Isopropyl stallation. Perform ters in an Isoprop l	spection of Alcohol and m a screws cyl Alcohol	ZZ. TECH	23. QA/DV
11.4	Weigh	ITEM	WEIGHT	fasteners. Recor	d the weight		
	SCAL	E					
11.5	PN	M#		Cal Date			
11.0	111			<u> </u>			

			5. Page 47		116
	AMS-02 TASK SHEET (ATS)	4. ATS NO.	ATS	090127-1	-R0
	CONTINUATION PAGE	6. MOD NO.		,	
20. OPER SEQ. NO.	21. OPERATIONS (Print, Type, or Write Legibly)				CATION
11.6	WARNING: for TTCB installation reference draw of this ATS.	wings are as stated	d at the start	22. TECH	23. QA/DV
	Verify before use the availability of the approved	drawing revision			
11.6.1	Check the bill of material in the assembly drawin	g.			
11.6.2	Only when indicated in drawing apply a thin laye between washers and base plate and or component		mer in		
	Koropron primer - PN Lot#	_ Exp. Date			
11.6.3	Install the indicated component on the TTCB bas below.	n the figure			
11.6.4	Figure 4: Installation of pre-heater to base plate  Apply a thin layer of Grease, Braycote 601EF (C prior the installation (as reported on the assembly	X X	of each bolt		
	Braycote Grease - PN Lot#	Exp. Date			
11.7	Install the fasteners as per figure 4 and record faster hand) Bolt/washer/nut and number NAS number	ners lot number (v LOT	vrite by		

					5. Page 48	of 1	16
	AMS-02 TASK SHEE	• •		4. ATS NO.	ATS	090127-1	-R0
	CONTINUATION PA	AGE		6. MOD NO.			
20. OPER SEQ. NO.		21. OPER. (Print, Type, or				VERIFICATION VERIF	CATION 23. QA/DV
				OT#		ZZ. TECH	23. QA/DV
			L	OT#			
				OT#			
				OT#			
				OT#			
				OT#			
				OT#			
				OT#			
				OT#			
	Dash Number	pelow table  Torque (	(in*lbf)	1			
	Screw	Max	Min	1			
	NAS1352N04LB-6	7.459	6.34	]			
11.9	Check this value with the tal	ble at the end	of this AT	S.			
	Locking torque shall be in Locking on bolt not as no i			of (size 0.112)			
11.10	Check this value with Table Final torque shall be the sea				JE.		

#### 116 5. Page ATS 090127-1-R0 **AMS-02 TASK SHEET (ATS)** 4. ATS NO. **CONTINUATION PAGE** 6. MOD NO. VERIFICATION 20. OPER SEQ. NO. 21. OPERATIONS (Print, Type, or Write Legibly) 22. TECH 23. QA/DV 5% precision on torque. PH\_2.2 PH 1.2 PH\_2.3 PH\_1.4 PH 1.3 Torque Wrench- Locking Torque (locking is the same as running torque) PN \_\_\_\_\_ M# \_\_\_\_\_ Cal Due Date\_ Torque Wrench- Final Torque M# \_\_\_\_\_ Cal Due Date\_\_ **Bolt indication (see figure above)** Locking Torque **Final Torque Bolt indication (see figure above)** Locking Torque **Final Torque**

			5. Page	50	of 1	16
	AMO 00 TAOK OUEET (ATO)		0490	ATS (	090127-1	-R0
	AMS-02 TASK SHEET (ATS)	4. ATS NO.				
	CONTINUATION PAGE	6. MOD NO.				
					VEDIE	NATION!
20. OPER SEQ. NO.	21. OPERATIONS (Print, Type, or Write Legibly)				VERIFIC 22. TECH	23. QA/DV
					ZZ. ILCII	23. QA/DV
	<del></del>			_		
				_		
				_		
11.11	End of online operation Pre-heater TTCB-P					

					5. Page 51	of 110	
	ΑN	MS-02 TASK SHEET (AT	S)	4. ATS NO.	ATS (	090127-1-R	20
		CONTINUATION PAGE		6. MOD NO.			
20. OPER SEQ. NO.		(Dr	21. OPERATIONS int, Type, or Write Legibly)		I	VERIFICAT	
OLQ. NO.		(1.1	int, Type, or write Legibly)			22. TECH 2	3. QA/DV
2. INST	ALLAT	TION OF <b>COLD ORBIT H</b>	EATER ONTO T	HE TTCB BASI	E PLATE		
12.1	inspect	e the TTCS Cold orbit heater tion of the parts to be install by Alcohol and let the parts	ed; clean the parts	to be installed w	ith		
12.2	and wa	e screws and washer to be u sher visual inspection; clear ad let screws and washers dr					
12.3		m a visual inspection of the If necessary clean them wi	ess of all the				
12.4	Weigh	t all the hardware to be in	d the weight				
		ITEM	WEIGHT				
	SCAL	Е					
12.5	PN	M#	(	Cal Date			

			5. Page 52	of .	116
	AMS-02 TASK SHEET (ATS)	4. ATS NO.	ATS	090127-1	-R0
	CONTINUATION PAGE	6. MOD NO.			
20. OPER SEQ. NO.	21. OPERATIONS (Print, Type, or Write Legibly)			VERIFI 22. TECH	CATION 23. QA/DV
12.6	WARNING: TTCB installation reference drawing of this ATS.  Verify before use the availability of the approved		at the start	ZZ. TECH	23. QA/DV
12.6.1	Check the bill of material in the assembly drawing	g.			
12.6.2	Only when indicated in drawing apply a thin laye between washers and base plate and or componen	ıt.			
	Koropron primer - PN Lot#	_ Exp. Date			
12.6.3	Install the indicated component on the TTCB base below.	e prate as snown in	the figure		
	(Scrwe)NAS1352N08-10  (Washer) NAS1149EN832R		X 4		
	Figure 4: Installation of Cold orbit heater to base	e piate			
12.6.4	Apply a thin layer of Grease, Braycote 601EF (C prior the installation (as reported on the assembly		f each bolt		
	Braycote Grease - PN Lot# l	Exp. Date			

					5. Page 53		16		
	AMS-02 TASK SHE	ET (ATS)		4. ATS NO.	ATS	090127-1	-R0		
	CONTINUATION	` '							
	00111110111011	. 7.02		6. MOD NO.					
20. OPER		21. OP	ERATIONS		1	VERIFIC	CATION		
SEQ. NO.			or Write Legibly)			22. TECH	23. QA/DV		
12.7	Install the fasteners as per	figure 4 and 1	record fasten	ers lot number (v	vrite by				
	hand)	371.0		* OF					
	Bolt/washer/nut and numb	per NAS i	number	LOT					
			Ţ	OT#					
			L	O1#					
			L	OT#					
	LOT#								
	LOT#								
				OT#					
			L	OT#					
12.8	Torque the fasteners installed in the former step to the final torque value. Seating								
	torque values are shown in								
	•								
		Tomue	(in*lbf)	7					
	Dash Number	Max	Min	-					
	S. amazzz	IVIUA	141111	_					
	Screw NAS1352N08-10	24.944	21.203						
	NAS1332N06-10								
12.9	Check this value with the	table at the en	d of this AT	S.					
	Locking torque shall be in	between 1.5-	- 15 inch*lht	f.					
	Locking torque shan be in	. 500 WOOH <b>1.5</b>	TO MICH IUI	••					
12.10	Check this value with Table 1 at the start of this ATS.								
	Final torque shall be the s	eating torque	ABOVE LO	CKING TORQU	E.				
	5% precision on torque.								

### 5. Page 54 116 ATS 090127-1-R0 **AMS-02 TASK SHEET (ATS) CONTINUATION PAGE** 6. MOD NO. VERIFICATION 20. OPER SEQ. NO. 21. OPERATIONS (Print, Type, or Write Legibly) 22. TECH 23. QA/DV CO\_2.4 CO\_2.3 Torque Wrench- Locking Torque (locking is the same as running torque) Torque Wrench- Final Torque Bolt indication (see figure above) Locking Torque Final Torque

## 116 55 5. Page ATS 090127-1-R0 **AMS-02 TASK SHEET (ATS)** 4. ATS NO. **CONTINUATION PAGE** 6. MOD NO. VERIFICATION 20. OPER SEQ. NO. 21. OPERATIONS (Print, Type, or Write Legibly) 22. TECH 23. QA/DV Bolt indication (see figure above) Locking Torque **Final Torque** 12.11 End of online operation cold orbit heater

					5. Page 56		16
	ΑN	MS-02 TASK SHEET (ATS)		4. ATS NO.	ATS (	090127-1	-R0
		CONTINUATION PAGE		6. MOD NO.			
20. OPER SEQ. NO.		21. OPERA (Print, Type, or V				VERIFIC 22. TECH	CATION 23. QA/DV
						22. 120.1	20. 47727
3. INST	ALLAT	TION OF <b>PUMPS</b> ONTO THE TTO	CB DUMM	IY RADIATOR	PLATE		
13.1	to be in	e the TTCS PUMP for installation. astalled; clean the parts to be installed be installed dry on the clean towel	ed with Iso	-	-		
13.2	and wa	e screws and washer to be used for asher visual inspection; clean screw ad let screws and washers dry on a c	s and wash	ers in an Isoprop			
13.3		m a visual inspection of the base. If necessary clean them with Isopr	ess of all the				
13.4	Weigh	t all the hardware to be installed,	including	fasteners. Recor	d the weight		
		ITEM	WEIGHT				
	SCAL	F					
40.7			_				
13.5	PN_	M#		Cal Date			

#### 116 5. Page ATS 090127-1-R0 **AMS-02 TASK SHEET (ATS) CONTINUATION PAGE** 6. MOD NO. VERIFICATION 20. OPER SEQ. NO. 21. OPERATIONS (Print, Type, or Write Legibly) 22. TECH 23. QA/DV 13.6 WARNING: TTCB installation reference drawings are as indicated at the start of this ATS. Verify before use the availability of the approved drawing revision Check the bill of material in the assembly drawing. 13.6.1 13.6.2 Only when indicated in drawing apply a thin layer of Koropron primer in between washers and base plate and or component. Koropron primer - PN Lot# Exp. Date 13.6.3 Install the indicated component on the TTCB base plate as shown in the figure below. (Screw) NAS1352N06-10 (Washer) NAS1149EN532R (Nut NAS1291C06M) $\mathbf{x}$ 8

Figure 4: Installation of pumps to the dummy radiator base plate

#### 116 5. Page ATS 090127-1-R0 **AMS-02 TASK SHEET (ATS)** 4. ATS NO. **CONTINUATION PAGE** 6. MOD NO. VERIFICATION 20. OPER SEQ. NO. 21 OPERATIONS (Print, Type, or Write Legibly) 22. TECH 23. QA/DV Apply a thin layer of Grease, Braycote 601EF (C1), to the threads of each bolt 13.6.4 prior the installation (as reported on the assembly drawings). Braycote Grease - PN \_\_\_\_\_ Lot#\_\_\_ Exp. Date \_\_\_\_\_ 13.7 Install the fasteners as per figure 4 and record fasteners lot number (write by hand) Bolt/washer/nut and number NAS number LOT LOT# LOT# \_\_\_\_\_LOT#\_\_\_\_ \_\_\_\_LOT#\_\_\_ LOT# LOT# \_\_\_\_\_LOT#\_\_\_\_ \_\_\_\_\_LOT#\_\_\_ \_\_\_\_\_LOT#\_\_\_\_ 13.8 Torque the fasteners installed in the former step to the final torque value. Seating torque values are shown in below table. Torque (in\*lbf) Dash Number Max Min Screw 13.861 11.782 NAS1352N06-10 13.9 Check this value with the table at the end of this ATS. Locking torque shall be in between 1–10 inch\*lbf (size 0.138). 13.10 Check this value with Table 1 at the start of this ATS. Final torque shall be the seating torque ABOVE LOCKING TORQUE. 5% precision on torque.

#### 116 5. Page ATS 090127-1-R0 **AMS-02 TASK SHEET (ATS)** 4. ATS NO. **CONTINUATION PAGE** 6. MOD NO. VERIFICATION 20. OPER SEQ. NO. 21. OPERATIONS (Print, Type, or Write Legibly) 22. TECH 23. QA/DV Pmp\_1.2 Pmp\_.1.1 Pmp\_1.3 Pmp\_2.4 Pmp 2.2 Pmp\_2.3 Pmp 2.1 Torque Wrench- Locking Torque (locking is the same as running torque) PN \_\_\_\_\_ M# \_\_\_\_ Cal Due Date\_ Torque Wrench- Final Torque M# \_\_\_\_\_ Cal Due Date\_ **Bolt indication (see figure above)** Locking Torque **Final Torque**

## 60 116 5. Page ATS 090127-1-R0 **AMS-02 TASK SHEET (ATS)** 4. ATS NO. **CONTINUATION PAGE** 6. MOD NO. VERIFICATION 20. OPER SEQ. NO. 21. OPERATIONS (Print, Type, or Write Legibly) 22. TECH 23. QA/DV Bolt indication (see figure above) Locking Torque **Final Torque** 13.11 **End of online operation pumps**

					5. Page 61		16
	ΑN	MS-02 TASK SHEET (ATS)		4. ATS NO.	ATS (	090127-1	-R0
		CONTINUATION PAGE		6. MOD NO.			
20. OPER SEQ. NO.		21. OPERA (Print, Type, or V				VERIFIC 22. TECH	CATION 23. QA/DV
						-	
4. INST	ALLAT	TION OF CONNECTOR PLATE	TO BOX	COVER			
14.1	the par	e the CONNECTRO PLATE for instate to be installed; clean the parts to parts to be installed dry on the clean	be installe		-		
14.2	and wa	e screws and washer to be used for asher visual inspection; clean screw ad let screws and washers dry on a c					
14.3		m a visual inspection of the CO JTS. If necessary clean them with I			ss of all the		
14.4	Weigh	t all the hardware to be installed,	including	fasteners. Recor	d the weight		
		ITEM	WEIGHT				
	SCAL	E					
14.5	PN_	M#	(	Cal Date			
	I					1	

			5. Page 62	of 1	16
	AMS-02 TASK SHEET (ATS)	4. ATS NO.		090127-1	
	CONTINUATION PAGE	6. MOD NO.			
20. OPER	21. OPERATIONS	<u>I</u>		VERIFIC	CATION
14.6	WARNING: TTCB installation reference drawing of this ATS.  Verify before use the availability of the approved			22. TECH	23. QA/DV
14.6.1	Check the bill of material in the assembly drawing	J.			
14.6.2	Only when indicated in drawing apply a thin layer between washers and base plate and or componen		imer in		
	Koropron primer - PN Lot#	_Exp. Date			
14.6.3	Install the indicated component on the TTCB base below.	e plate as shown	in the figure		
	(Screw) NAS1352  (Washer) NAS1149  Figure 4: Installation of connector plate to cover				

					5. Page 63		116
	AMS-02 TASK SH	EET (ATS)		4. ATS NO.	ATS	090127-1	-R0
	CONTINUATION	PAGE		6. MOD NO.			
20. OPER		21 OF	PERATIONS		1	VERIFI	CATION
SEQ. NO.			, or Write Legibly)			22. TECH	23. QA/DV
14.6.4	Apply a thin layer of Gprior the installation (as				of each bolt		
	Braycote Grease - PN	Lot#	£E	Exp. Date			
14.7	Install the fasteners as per hand)	figure 4 and	record fastene	ers lot number (v	vrite by		
	Bolt/washer/nut and num	ber NAS	number	LOT			
			L0	OT#			
			LC	OT#			
			Lo	OT#			
			LC	OT#			
			LO	OT#			
			L0	OT#			
			LO	OT#			
			LO	OT#			
			LO	OT#			
14.8	Torque the fasteners instatorque values are shown i			ne final torque va	lue. Seating		
	Dash Number	Torque	(in*lbf)	_			
		Max	Min	_			
	Screw NAS1352N06-6	13.861	11.782				
14.9	Check this value with the	table at the en	nd of this ATS	S.			
	Locking torque shall be in between 1–10 inch*lbf (size 0.138).						
14.10							

### 5. Page 64 116 ATS 090127-1-R0 **AMS-02 TASK SHEET (ATS) CONTINUATION PAGE** 6. MOD NO. VERIFICATION 20. OPER SEQ. NO. 21. OPERATIONS (Print, Type, or Write Legibly) 22. TECH 23. QA/DV BC 1 Torque Wrench- Locking Torque (locking is the same as running torque) Torque Wrench- Final Torque PN \_\_\_\_\_ M# \_\_\_\_ Cal Due Date\_\_\_\_\_ **Bolt indication (see figure above)** Locking Torque **Final Torque**

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	AMS-02 TASK SHEET (ATS)	4. ATS NO.	4. ATS NO. ATS 090127-1-R0				
	CONTINUATION PAGE	6. MOD NO.					
20. OPER	21. OPERATIONS			VERIFIC			
SEQ. NO.	(Print, Type, or Write Legibly)			22. TECH	23. QA/DV		
	Bolt indication (see figure above) Locking Torqu	ue Fina ———	l Torque				
14.11	End of online operation cover and connector plat	ee e					

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	Al	MS-02 TASK SHEET (ATS)		4. ATS NO.	ATS (	)90127-1	-R0
		CONTINUATION PAGE		6. MOD NO.			
20. OPER		21. OPER/				VERIFI	CATION
SEQ. NO.		(Print, Type, or \	Write Legibly)			22. TECH	23. QA/DV
5.	INST	ALLATION OF Cover to CoverR	ibs (PPBO	X & PPfront &	PPback)		
15.1	the par	Prepare the Cover and Cover ribs for installation. Perform a visual inspection of the parts to be installed; clean the parts to be installed with Isopropyl Alcohol and let the parts to be installed dry on the clean towel					
15.2	and wa	e screws and washer to be used for asher visual inspection; clean screw and let screws and washers dry on a					
15.3		m a visual inspection of the COUTS. If necessary clean them with	ss of all the				
15.4	Weigh	d the weight					
		ITEM	WEIGHT				
	SCAL	.E					
15.5	PN_	M#		Cal Date			

# AMS-02 TASK SHEET (ATS) CONTINUATION PAGE 5. Page 67 of 116 ATS 090127-1-R0 6. MOD NO.

	CONTINUATION PAGE	6. MOD NO.		
20. OPER SEQ. NO.	21. OPERATIONS (Print, Type, or Write Legibly)		VERIFIC	
15.6.1	WARNING: TTCB installation reference drawing of this ATS.  Verify before use the availability of the approved  Check the bill of material in the assembly drawing	drawing revision	22. TECH	23. QA/DV
15.6.2	Only when indicated in drawing apply a thin layer between washers and base plate and or component Koropron primer - PN Lot#	t.		
15.6.3	Install the indicated components as shown in the f	igure below.		

### 116 68 5. Page ATS 090127-1-R0 **AMS-02 TASK SHEET (ATS) CONTINUATION PAGE** 6. MOD NO. VERIFICATION 20. OPER SEQ. NO. 21. OPERATIONS (Print, Type, or Write Legibly) 22. TECH 23. QA/DV (Screw) NAS1352N06-6 (Washer) NAS1149EN532R X 25 Figure 4: Installation of cover on ribs Apply a thin layer of Grease, Braycote 601EF (C1), to the threads of each bolt prior the installation (as reported on the assembly drawings). 15.6.4 Braycote Grease - PN \_\_\_\_\_ Lot#\_\_\_ Exp. Date \_\_\_\_\_

					5. Page 69		16
	AMS-02 TASK SHEE	•	4. AT	S NO.	ATS (	090127-1	-R0
	CONTINUATION PA	.GE	6. MC	DD NO.			
20. OPER SEQ. NO.		21. OPERATION: (Print, Type, or Write L					CATION
15.7	Install the fasteners as per fi			umber (v	vrite by	22. TECH	23. QA/DV
	hand) Bolt/washer/nut and number	NAS numbe	er LC	ΣT			
			LOT#				
			LOT#				
			LOT#				
			LOT#				
			LOT#				
		LOT#					
			LOT#				
			LOT#				
			LOT#				
15.8	Torque the fasteners installed in the former step to the final torque value. torque values are shown in below table.  Torque (in*lbf)				lue. Seating		
	Dash Number	Max	Min				
	Screw NAS1352N06-6	13.861	11.782				
15.9	Check this value with the tal	ole at the end of t	his ATS.				
	Locking torque shall be in be	etween 1– 10 inc	h*lbf (size 0.13	38).			
15.10	Locking torque shall be in be Check this value with Table Final torque shall be the sear 5% precision on torque.	1 at the start of the	nis ATS.		Е.		
15.10	Check this value with Table Final torque shall be the seat	1 at the start of the	nis ATS.		E.		
15.10	Check this value with Table Final torque shall be the seat	1 at the start of the	nis ATS.		Е.		

#### 70 116 5. Page ATS 090127-1-R0 **AMS-02 TASK SHEET (ATS) CONTINUATION PAGE** 6. MOD NO. VERIFICATION 20. OPER SEQ. NO. 21. OPERATIONS (Print, Type, or Write Legibly) 22. TECH 23. QA/DV CV\_5 CV\_6 CV 3 CV 11 $CV_8$ CV 12 CV\_13 CV 15 CV 16 CV 22 CV\_23 CV\_24 CV 20 Torque Wrench- Locking Torque (locking is the same as running torque) M# \_\_\_\_\_ Cal Due Date\_\_\_\_\_ Torque Wrench- Final Torque PN \_\_\_\_\_ M# \_\_\_\_ Cal Due Date\_\_\_\_

#### 116 71 5. Page ATS 090127-1-R0 **AMS-02 TASK SHEET (ATS)** 4. ATS NO. **CONTINUATION PAGE** 6. MOD NO.

20. OPER		VERIFICATION			
SEQ. NO.	(Print	21. OPERATIONS , Type, or Write Legibly)		22. TECH	23. QA/DV
	<b>Bolt indication (see figure above)</b>	Locking Torque	Final Torque		
	Bott indication (see figure above)	Locking Torque	i mai Torque		
	Took Shoot (ATS) Continuation Boy 0/25/06 JH				

### 72 116 5. Page ATS 090127-1-R0 **AMS-02 TASK SHEET (ATS)** 4. ATS NO. **CONTINUATION PAGE** 6. MOD NO. VERIFICATION 20. OPER SEQ. NO. 21. OPERATIONS (Print, Type, or Write Legibly) 22. TECH 23. QA/DV Bolt indication (see figure above) Locking Torque **Final Torque** End of online operation cover to ribs installation

					5. Page 73		116
	AN	/IS-02 TASK SHEET (ATS)		4. ATS NO.	ATS (	090127-1	-R0
		CONTINUATION PAGE		6. MOD NO.			
20. OPER		21. OPER/	ATIONS			VERIFI	CATION
SEQ. NO.		(Print, Type, or \	Write Legibly)			22. TECH	23. QA/DV
6. 16.1	Prepare	ALLATION OF <b>FRONT COVER</b> e the FRONT COVER RIB for inst ts to be installed; clean the parts to	tallation. Pe	erform a visual in			
16.2	let the Prepare	parts to be installed dry on the clean escrews and washer to be used for asher visual inspection; clean screwed let screws and washers dry on a contract of the clean screwed to the contract of the clean screwed to the contract of the clean screwed to the clean	n towel the part ins s and wash	stallation. Perforners in an Isoprop	n a screws		
16.3	Perforr	m a visual inspection of the BASE	ess of all the				
	INSER	TS. If necessary clean them with Is	sopropyi A	Iconoi			
16.4	Weigh	t all the hardware to be installed,	including	fasteners. Recor	d the weight		
		TECH.	WEIGHT				
		ITEM	WEIGHT				
	SCAL	E					
16.5	PN_	M#		Cal Date			

		5. Page	74	of	116	
AMS-02 TASK SHEET (ATS)	4. ATS NO.		ATS	09012′	7-1-R0	
CONTINUATION PAGE	6. MOD NO.					

	AMO OF TAOM SHEET (ATO)			
	CONTINUATION PAGE	6. MOD NO.		
20. OPER SEQ. NO.	21. OPERATIONS			ICATION
16.6.1	WARNING: TTCB installation reference drawin of this ATS.  Verify before use the availability of the approved Check the bill of material in the assembly drawing the control of the control	I drawing revision	22. TECH	23. QA/DV
16.6.2	Only when indicated in drawing apply a thin layer between washers and base plate and or component Koropron primer - PN Lot#	nt.		
16.6.3	Install the indicated components as shown in the			

#### 116 5. Page ATS 090127-1-R0 **AMS-02 TASK SHEET (ATS)** 4. ATS NO. **CONTINUATION PAGE** 6. MOD NO. VERIFICATION 20. OPER SEQ. NO. 21. OPERATIONS (Print, Type, or Write Legibly) 22. TECH 23. QA/DV (Screw) NAS1352N08-8 (Washer) NAS1149EN832R Figure 4: Connection of Front cover rib to base plate Apply a thin layer of Grease, Braycote 601EF (C1), to the threads of each bolt 16.6.4 prior the installation (as reported on the assembly drawings). Braycote Grease - PN Lot# Exp. Date 16.7 Install the fasteners as per figure 4 and record fasteners lot number (write by hand) Bolt/washer/nut and number NAS number LOT LOT# \_\_\_\_\_LOT#\_\_\_ \_\_\_\_\_LOT#\_\_\_ LOT# \_\_\_\_LOT#\_\_\_\_ \_\_\_\_\_LOT#\_\_\_ \_\_\_\_LOT#\_\_\_\_

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	AMS-02 TASK SHEE	• •		4. ATS I	NO.	ATS (	090127-1	-R0
	CONTINUATION PA	AGE		6. MOD	NO.			
20. OPER SEQ. NO.		21. OPERATION (Print, Type, or Writ					VERIFIC 22. TECH	CATION 23. QA/DV
16.8	Torque the fasteners installe torque values are shown in l		step to th	e final to	rque va	lue. Seating		
	Dash Number	Torque	(in*lbf)					
	Screw	Max	Mir	ı				
	NAS1352N08-8	24.944	21.20	)3				
16.9	Check this value with the ta	ble at the end of	f this ATS	S.				
	Locking torque shall be in b	etween <b>1.5</b> – <b>15</b>	inch*lb	f (size 0.1	.64).			
16.10	Check this value with Table Final torque shall be the sea 5% precision on torque.				ORQU	E.		
	Front_rib_base_1  Froque Wrench- Locking Topy  PN		s the sam	e as runn				
	Torque Wrench- Final Torq	ue						
	_	<b>I</b> #	C <sub>e</sub> 1	Due Date	<b>a</b>			
	1V	<u> </u>	Cai	Duc Dan	<u> </u>			

## 116 5. Page ATS 090127-1-R0 **AMS-02 TASK SHEET (ATS)** 4. ATS NO. **CONTINUATION PAGE** 6. MOD NO. VERIFICATION 20. OPER SEQ. NO. 21. OPERATIONS (Print, Type, or Write Legibly) 22. TECH 23. QA/DV Bolt indication (see figure above) Locking Torque **Final Torque** 16.11 End of online operation cover to front cover rib to base plate

					5. Page 78		.16				
	Al	MS-02 TASK SHEET (ATS)		4. ATS NO.	ATS (	090127-1	-R0				
		CONTINUATION PAGE		6. MOD NO.							
20. OPER		21. OPER#	ATIONS			VERIFI	CATION				
SEQ. NO.		(Print, Type, or V	Write Legibly)			22. TECH	23. QA/DV				
7.	INST	ALLATION OF <b>Cover to Base pl</b> a	ate rivnuts	1							
17.1	installe	e the Cover for installation. Performed; clean the parts to be installed with alled dry on the clean towel									
17.2	and wa	Prepare screws and washer to be used for the part installation. Perform a screws and washer visual inspection; clean screws and washers in an Isopropyl Alcohol bath and let screws and washers dry on a clean towel									
17.3		m a visual inspection of the CO UTS. If necessary clean them with I			ss of all the						
17.4	Weigh	t all the hardware to be installed,	including	fasteners. Recor	d the weight						
		ITEM	WEIGHT								
	SCAL	Æ									
17.5	PN_	M#		Cal Date							

# AMS-02 TASK SHEET (ATS) CONTINUATION PAGE 5. Page 79 of 116 ATS 090127-1-R0 6. MOD NO.

	CONTINUATION PAGE	6. MOD NO.		
20. OPER	21. OPERATIONS		VERIFI	CATION
17.6	WARNING: TTCB installation reference drawing of this ATS.  Verify before use the availability of the approved		22. TECH	23. QA/DV
17.6.1	Check the bill of material in the assembly drawing	g.		
17.6.2	Only when indicated in drawing apply a thin layer between washers and base plate and or componen  Koropron primer - PN Lot#	t.		
17.6.3	Install the indicated components as shown in the factor of	figure below.		

### 116 80 5. Page ATS 090127-1-R0 **AMS-02 TASK SHEET (ATS)** 4. ATS NO. **CONTINUATION PAGE** 6. MOD NO. VERIFICATION 20. OPER SEQ. NO. 21. OPERATIONS (Print, Type, or Write Legibly) 22. TECH 23. QA/DV (Screw) NAS1352N06-6 Figure 4: Connection of cover to base plate Apply a thin layer of Grease, Braycote 601EF (C1), to the threads of each bolt prior the installation (as reported on the assembly drawings). 17.6.4 Braycote Grease - PN \_\_\_\_\_ Lot#\_\_\_ Exp. Date \_\_\_\_\_ Install the fasteners as per figure 4 and record fasteners lot number (write by 17.7 hand) Bolt/washer/nut and number NAS number LOT \_\_\_\_LOT#\_\_\_\_

					5. Page 81	of 1	16
	AMS-02 TASK SHI			4. ATS NO.	ATS	090127-1	-R0
	CONTINUATION	PAGE		6. MOD NO.			
20. OPER SEQ. NO.			PERATIONS e, or Write Legibly)			VERIFICATION VERIF	CATION 23. QA/DV
			L	OT#			20. 4.757
			L	OT#			
			L	OT#			
			L	OT#			
			L	OT#			
			L	OT#			
			L	OT#			
			L	OT#			
17.8	Torque the fasteners instatorque values are shown i			ne final torque va	alue. Seating		
	D 137 1	Torque	(in*lbf)	]			
	Dash Number	Max	Min				
	Screw NAS1352N06-6	13.861	11.782				
17.9	Check this value with the	table at the en	nd of this AT	S.			
	Locking torque shall be in	n between <b>1</b> – 1	10 inch*lbf (	size 0.138).			
17.10	Check this value with Tal Final torque shall be the s 5% precision on torque.				JE.		

## 5. Page 82 116 ATS 090127-1-R0 **AMS-02 TASK SHEET (ATS)** 4. ATS NO. **CONTINUATION PAGE** 6. MOD NO. VERIFICATION 20. OPER SEQ. NO. 21. OPERATIONS (Print, Type, or Write Legibly) 22. TECH 23. QA/DV Cov toB 2 Cov toB 1 Torque Wrench- Locking Torque (locking is the same as running torque) Torque Wrench- Final Torque Bolt indication (see figure above) Locking Torque Final Torque 17.11 End of online operation cover to base plate rivnuts

					5. Page 83		16
	AN	MS-02 TASK SHEET (ATS)		4. ATS NO.	ATS (	)90127-1	-R0
		CONTINUATION PAGE		6. MOD NO.			
20. OPER		21. OPER	ATIONS			VERIFI	CATION
SEQ. NO.		(Print, Type, or	Write Legibly)			22. TECH	23. QA/DV
8.	INSTA	LLATION OF Cover Rib to Base	e plate rivn	uts 2			
18.1	installe	e the Rib for installation. Perform and; clean the parts to be installed walled dry on the clean towel					
18.2	and wa	e screws and washer to be used for asher visual inspection; clean screw ad let screws and washers dry on a	vs and wash	ers in an Isoprop			
18.3		m a visual inspection of the base pl ssary clean them with Isopropyl A		he cleanliness of	all the holes.		
18.4	Weigh	t all the hardware to be installed,	including	fasteners. Recor	d the weight		
		ITEM	WEIGHT				
	SCAL	E					
18.5	PN	M#	(	Cal Date			
1910							

			5. Page 84	of 1	16	
	AMS-02 TASK SHEET (ATS)	4. ATS NO.	ATS 090127-1-R0			
	CONTINUATION PAGE	6. MOD NO.				
20. OPER	21. OPERATIONS		VERIFIC	CATION		
SEQ. NO.	(Print, Type, or Write Legibly)		22. TECH	23. QA/DV		

	CONTINUATION FAGE	6. MOD NO.			
20. OPER	21. OPERATIONS			VERIFI	CATION
SEQ. NO.	(Print, Type, or Write Legibly)			22. TECH	23. QA/DV
18.6	WARNING: TTCB installation reference drawing of this ATS.  Verify before use the availability of the approved				
18.6.1	Check the bill of material in the assembly drawing	<b>5</b> .			
18.6.2	Only when indicated in drawing apply a thin layer between washers and base plate and or component		mer in		
	Koropron primer - PN Lot#	_Exp. Date			
18.6.3	Install the indicated components as shown in the fi	\$ \$ •			
	(Screw) NAS1352N06-12  N 2  Figure 4: Connection of cover rib to base plate				

#### 116 5. Page ATS 090127-1-R0 **AMS-02 TASK SHEET (ATS)** 4. ATS NO. **CONTINUATION PAGE** 6. MOD NO. VERIFICATION 20. OPER 21 OPERATIONS SEQ. NO. (Print, Type, or Write Legibly) 22. TECH 23. QA/DV Apply a thin layer of Grease, Braycote 601EF (C1), to the threads of each bolt 18.6.4 prior the installation (as reported on the assembly drawings). Braycote Grease - PN \_\_\_\_\_ Lot#\_\_\_ Exp. Date \_\_\_\_\_ 18.7 Install the fasteners as per figure 4 and record fasteners lot number (write by hand) Bolt/washer/nut and number NAS number LOT LOT# LOT# \_\_\_\_LOT#\_\_\_ \_\_\_\_\_LOT#\_\_\_ LOT# LOT# \_\_\_\_\_LOT#\_\_\_\_ LOT# \_\_\_\_\_LOT#\_\_\_ 18.8 Torque the fasteners installed in the former step to the final torque value. Seating torque values are shown in below table. Torque (in\*lbf) Dash Number Min Max Screw 13.861 11.782 NAS1352N06-12 18.9 Check this value with the table at the end of this ATS. Locking torque shall be in between 1–10 inch\*lbf (size 0.138). 18.10 Check this value with Table 1 at the start of this ATS. Final torque shall be the seating torque ABOVE LOCKING TORQUE. 5% precision on torque.

## 5. Page 86 116 ATS 090127-1-R0 **AMS-02 TASK SHEET (ATS) CONTINUATION PAGE** 6. MOD NO. VERIFICATION 20. OPER SEQ. NO. 21. OPERATIONS (Print, Type, or Write Legibly) 22. TECH 23. QA/DV to Base 1 Torque Wrench- Locking Torque (locking is the same as running torque) Torque Wrench- Final Torque M# \_\_\_\_\_ Cal Due Date\_\_\_\_\_ **Bolt indication (see figure above)** Locking Torque **Final Torque** End of online operation cover to base plate rivnuts 2

					5. Page 87		16
	Al	MS-02 TASK SHEET (ATS)		4. ATS NO.	ATS (	090127-1	-R0
		CONTINUATION PAGE		6. MOD NO.			
20. OPER SEQ. NO.		21. OPER/ (Print, Type, or \				VERIFIC 22. TECH	CATION 23. QA/DV
						-	
9. INST	ALLAT	TION OF <b>TEMPORARY INSTAI</b>	LLATION	TOOL TO CO	VER		
19.1	the par	e the Cover and auxilary tool for in ts to be installed; clean the parts to parts to be installed dry on the clea	be installe		-		
19.2	and wa	e screws and washer to be used for asher visual inspection; clean screw ad let screws and washers dry on a	s and wash	ers in an Isoprop			
19.3		m a visual inspection of the CC UTS. If necessary clean them with	ss of all the				
19.4	Weigh	t all the hardware to be installed,	including	fasteners. Recor	d the weight		
		ITEM	WEIGHT				
	SCAL	E					
19.5	PN_	M#	(	Cal Date			

#### 116 5. Page ATS 090127-1-R0 **AMS-02 TASK SHEET (ATS)** 4. ATS NO. **CONTINUATION PAGE** 6. MOD NO. VERIFICATION 20. OPER SEQ. NO. 21. OPERATIONS (Print, Type, or Write Legibly) 22. TECH 23. QA/DV 19.6 WARNING: TTCB installation reference drawings are as indicated at the start of this ATS. Verify before use the availability of the approved drawing revision Check the bill of material in the assembly drawing. 19.6.1 19.6.2 Only when indicated in drawing apply a thin layer of Koropron primer in between washers and base plate and or component. Koropron primer - PN Lot# Exp. Date 19.6.3 Install the indicated components as shown in the figure below. REMOVE AUXILIARY TOOL BEFORE COVER INSTALLATION 20.1 Isometric view: INSTALLATION SETUP - WITHOUT COVER WITH AUXILIARY TOOL (Screw) NAS1352N3-8 (Nut) NAS1291C06M Figure 4: Connection of auxiliary tool to cover

					5. Page 89		16
	AMS-02 TASK SHI	• •		4. ATS NO.	ATS	090127-1	-R0
	CONTINUATION	PAGE		6. MOD NO.			
20. OPER			ERATIONS			VERIFIC	CATION
SEQ. NO.			or Write Legibly)		C 1.1.1.	22. TECH	23. QA/DV
19.6.4	Apply a thin layer of prior the installation (a				of each bolt		
	Braycote Grease - PN	Lot#	F	Exp. Date			
19.7	Install the fasteners as perhand)	r figure 4 and	record fasten	ers lot number (v	write by		
	Bolt/washer/nut and num	ber NAS	number	LOT			
			Lo	OT#	<del></del>		
			L	OT#			
			L	OT#			
			Lo	OT#	<u>-</u>		
			L	OT#			
			Lo	OT#			
			L	OT#			
			L	OT#			
			L	OT#			
19.8	Torque the fasteners insta Seating torque values are		-	ne following torg	ue value.		
		_	C1 -1-44 - O	1			
	Dash Number	Torque	<u> </u>				
		Max	Min				
	Screw NAS1352N06-6	13.861	11.782				
19.9	Check this value with the As this is a temporary scr The Locking torque shall	ew and a nut v	without locking	ng feature.			
19.10	Final torque shall be the s 5% precision on torque.	seating torque	ABOVE LO	CKING TORQU	Œ.		

### 90 116 5. Page ATS 090127-1-R0 **AMS-02 TASK SHEET (ATS) CONTINUATION PAGE** 6. MOD NO. VERIFICATION 20. OPER SEQ. NO. 21. OPERATIONS (Print, Type, or Write Legibly) 22. TECH 23. QA/DV Torque Wrench- Locking Torque (locking is the same as running torque) PN \_\_\_\_\_ M# \_\_\_\_ Cal Due Date\_\_\_\_\_ Torque Wrench- Final Torque PN \_\_\_\_\_ M# \_\_\_\_ Cal Due Date\_\_\_\_\_ REMOVE AUXILIARY TOOL BEFORE COVER INSTALLATION Aux 2 20.1 Aux\_1 Isometric view: INSTALLATION SETUP - WITHOUT COVER - WITH AUXILIARY TOOL **Bolt indication (see figure above)** Locking Torque **Final Torque** 19.11 End of online operation auxiliary tool to cover

					5. Page 91	of ]	.16
	Al	MS-02 TASK SHEET (ATS)		4. ATS NO.	ATS (	)90127-1	-R0
		CONTINUATION PAGE		6. MOD NO.			
20. OPER		21. OPERAT				VERIFI	CATION
SEQ. NO.  0.	INST	ALLATION OF Cover to Base plat				22. TECH	23. QA/DV
		-					
20.1	installe	e the Cover for installation. Perform ed; clean the parts to be installed wit alled dry on the clean towel					
20.2	and wa	e screws and washer to be used for the asher visual inspection; clean screws and let screws and washers dry on a cl	and wash	ers in an Isoprop			
20.3		m a visual inspection of the base to be used. If necessary clean them			ss of all the		
20.4	Weigh	t all the hardware to be installed, i	including	fasteners. Recor	d the weight		
		ITEM	WEIGHT				
	SCAL	E					
	SCAL	E					
20.5	PN_	M#	C	Cal Date			
20.6	of th	RNING: TTCB installation referenchis ATS.  fy before use the availability of the states.					

## 116 92 5. Page ATS 090127-1-R0 **AMS-02 TASK SHEET (ATS) CONTINUATION PAGE** 6. MOD NO. VERIFICATION 20. OPER SEQ. NO. 21. OPERATIONS (Print, Type, or Write Legibly) 22. TECH 23. QA/DV 20.6.1 Check the bill of material in the assembly drawing. Only when indicated in drawing apply a thin layer of Koropron primer in 20.6.2 between washers and base plate and or component. Koropron primer - PN \_\_\_\_\_ Lot#\_\_\_\_ Exp. Date \_\_\_\_ 20.6.3 Install the indicated components as shown in the figure below. (Screw) NAS1352N08-8 (Washer) NAS1149EN832R

Figure 4: Connection of cover to base plate inserts

#### 93 116 5. Page ATS 090127-1-R0 **AMS-02 TASK SHEET (ATS)** 4. ATS NO. **CONTINUATION PAGE** 6. MOD NO. VERIFICATION 20. OPER 21 OPERATIONS SEQ. NO. (Print, Type, or Write Legibly) 22. TECH 23. QA/DV Apply a thin layer of Grease, Braycote 601EF (C1), to the threads of each bolt 20.6.4 prior the installation (as reported on the assembly drawings). Braycote Grease - PN \_\_\_\_\_ Lot#\_\_\_ Exp. Date \_\_\_\_\_ 20.7 Install the fasteners as per figure 4 and record fasteners lot number (write by hand) Bolt/washer/nut and number NAS number LOT LOT# LOT# \_\_\_\_LOT#\_\_\_ \_\_\_\_LOT#\_\_\_ LOT# LOT# \_\_\_\_\_LOT#\_\_\_\_ \_\_\_\_\_LOT#\_\_\_ \_\_\_\_\_LOT#\_\_\_ 20.8 Torque the fasteners installed in the former step to the final torque value. Seating torque values are shown in below table. Dash Number Torque (in\*lbf) Min Max Screw NAS1352N08-8 24.944 21.203 20.9 Check this value with the table at the end of this ATS. Locking torque shall be in between 1.5-15 inch\*lbf (size 0.164). 20.10 Check this value with Table 1 at the start of this ATS. Final torque shall be the seating torque ABOVE LOCKING TORQUE. 5% precision on torque.

### 5. Page 94 116 ATS 090127-1-R0 AMS-02 TASK SHEET (ATS) **CONTINUATION PAGE** 6. MOD NO. VERIFICATION 20. OPER SEQ. NO. 21. OPERATIONS (Print, Type, or Write Legibly) 22. TECH 23. QA/DV CBP 2 CBP 4 CBP 1 CBP 3 CBP 5 CBP 7 CBP 6 CBP 8 Torque Wrench- Locking Torque (locking is the same as running torque) PN \_\_\_\_\_ M# \_\_\_\_ Cal Due Date\_\_\_\_\_ Torque Wrench- Final Torque Bolt indication (see figure above) Locking Torque Final Torque

## 95 116 5. Page ATS 090127-1-R0 **AMS-02 TASK SHEET (ATS)** 4. ATS NO. **CONTINUATION PAGE** 6. MOD NO. VERIFICATION 20. OPER SEQ. NO. 21. OPERATIONS (Print, Type, or Write Legibly) 22. TECH 23. QA/DV Bolt indication (see figure above) Locking Torque **Final Torque** 20.11 End of online operation cover to base plate inserts installation

					5. Page 96		16
	Al	MS-02 TASK SHEET (ATS)		4. ATS NO.	ATS	090127-1	-R0
		CONTINUATION PAGE		6. MOD NO.			
20. OPER SEQ. NO.		21. OPER. (Print, Type, or				VERIFIC 22. TECH	CATION 23. QA/DV
21.1	Prepare parts to	LLATION OF BASE PLATE TO the BASE PLATE for installation to be installed; clean the parts to be the to be installed dry on the clean to	n. Perform a	a visual inspection			
21.2	and wa	e screws and washer to be used for asher visual inspection; clean screw and let screws and washers dry on a	s and wash	ners in an Isoproj			
21.3	1	m a visual inspection of the USS S erts to be used. If necessary clean t					
21.4		ITEM	WEIGHT		rd the weight		
	SCAL	E					
21.5	PN _	M#	(	Cal Date			

					5. Page 97	of $1$	16
	AME OF TACK CHI	EET (ATC)		4 470 110	ATS	090127-1-	-R0
	AMS-02 TASK SH	• •		4. ATS NO.			
	CONTINUATION	PAGE		6. MOD NO.			
				0. WOD NO.			
20. OPER			I. OPERATIONS			VERIFIC	ATION
SEQ. NO.		(Print,	Гуре, or Write Legibly)			22. TECH	23. QA/DV
21.6	WARNING: TTCB ins	stallation ref	ference drawi	ngs are as indicated	d at the start		
	of this ATS.						
	Verify before use the a	vailability c	of the approve	ed drawing revision			
	, crity sersic use the u	· · united in the	or une upprove				
21.6.1	Check the bill of mater	ial in the as	sembly drawi	ng.			
				8			
21.6.2	Only when indicated in	n drawing at	oply a thin lay	er of Koropron pri	mer in		
	between washers and b						
	seeween washers and s	ase place an	d or compone				
	Koropron primer - PN		Lot#	Exp. Date			
	Tioroprom primer 111			2p. 2 a.u			
21.6.3	Install the indicated con	mponents as	s shown in the	e figure below.			
		1		8			
	D D1 / T /	11 41 2	TITEAAA A	< a>	[ m		7
	Base Plate Inst	allation (	<b>FI2AA8-</b> の	6- <i>3)</i>	Thermal W 14 x 6.7 x 4		
			[		174.0.747		
			Thermal Washer- 14 x 6.7 x 4	15.7			
	(Washer) NAS1587-4		- <u>• </u>	X2			X 18
	(Screw)NAS1351N4-16		P				
		\ \	/// : ****	15.7) 18x	(W	asher)NAS15	7-4
	X 1	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	4/ >	(3 <sup>2</sup> )	VSco	-w)NAS1351N	4-24
		\ XZ			(bill	11 (11 (12 (14 (14 (14 (14 (14 (14 (14 (14 (14 (14	7-2-7
			0000		(.2)		X 9
			88800	m and	.6		
		160		3888888	\		
			200	0000000			
			11x (15.6)	999	Thermal Wa	sher-15.7	
			-60		14 x 6.7 x 4		
		ilx	(15.7) (3)				X 22
		<u></u>					ALL
	Dash Number	Torque	(in*lbf)				_
		Max	Min		(Washe	r)NAS1537-4	
	NAS1351N4-16	102.375	87.019		(Screw)	NAS1351N4-	16
	NAS1351N4-24	102.375	87.019				X 11
	NAS1351N4-20	102.375	87.019				
	Figure 4: Connection l	base plate to	o USS simulai	tor			
		r					

					5. Page 98		16		
	AMS-02 TASK SH	• •	4. AT	ΓS NO.	ATS	090127-1	-R0		
	CONTINUATION	I PAGE	6. MC	DD NO.					
20. OPER SEQ. NO.		21. OPERAT (Print, Type, or Wr		,		VERIFIC 22. TECH	CATION 23. QA/DV		
21.6.4	Apply a thin layer of prior the installation (a	Grease, Braycote 6	01EF (C1), to the		of each bolt	ZZ. IEUN	23. QA/DV		
	Braycote Grease - PN	Lot#	Exp. Dat	e					
21.7	Install the fasteners as pehand)				rite by				
	USE INSTALLATION I Bolt/washer/nut and num								
			LOT#						
			LOT#						
		LOT#							
			LOT#						
			LOT#						
			LOT#						
			LOT#						
			LOT#						
			LOT#						
21.8	torque values are shown in below table.  Torque (in*lbf)								
	Dash Number	Max	Min						
	NAS1351N4-16	102.375	87.019						
	NAS1351N4-24	102.375	87.019						
	NAS1351N4-20	102.375	87.019						
21.9	Check this value with the	e table at the end o	f this ATS.						
	Locking torque shall be i	n between <b>3.5-30</b>	inch*lbf (size 0.2	<b>250</b> ).					

					5. Page 99		16
	AMS-02 TASK S	-	S)	4. ATS NO.	ATS	090127-1-	-R0
	CONTINUATI	ON PAGE		6. MOD NO.			
		(Pri	21. OPERATIONS nt, Type, or Write Legibly)	1		VERIFIC 22. TECH	CATION 23. QA/D
Fina	ck this value with I torque shall be the precision on torque	ne seating to			UE.		
I	Base Plate Inst	allation (I	ET5998-06-3		Thermal Washer- 14 x 6 7 x 4	15/7	
:-	BP_USS_1_1  BP_USS_1_1		4988888	USS_2_9		(AS1507-4 \$135154-24   X 2	ε
		11x (				XX	
	Dash Number	Torque (	in*lbf) Min		(Washer DAS	1587-4	_
	NAS1351N4-16	102,375	87.0L9		(Strew)NAST	811134-16	
	NAS1351N4 -24	102.375	87.019			XII	_
	NAS1351N4-20	102.375	87.019			X.	<u> </u>
Torq	ue Wrench- Lock	ing Torque (	locking is the sa	me as running to	rque)		
PN_		M#	C	al Due Date			
	ue Wrench- Final						
		-		al Due Date			
				Due Duic			
Bolt	indication (see fi	gure above)	Locking Tor	que Fin	al Torque		
			·				
1							

## 5. Page 100 116 ATS 090127-1-R0 **AMS-02 TASK SHEET (ATS)** 4. ATS NO. **CONTINUATION PAGE** 6. MOD NO. VERIFICATION 20. OPER SEQ. NO. 21. OPERATIONS (Print, Type, or Write Legibly) 22. TECH 23. QA/DV Bolt indication (see figure above) Locking Torque **Final Torque**

End of online operation base plate to USS

21.11

					5. Page 101		16		
	Al	MS-02 TASK SHEET (ATS)		4. ATS NO.	ATS (	090127-1	-R0		
		CONTINUATION PAGE		6. MOD NO.					
20. OPER SEQ. NO.		21. OPER. (Print, Type, or <sup>1</sup>					CATION		
JLQ. NO.		(гіші, туре, от	vviite Legibly)			22. TECH	23. QA/DV		
2.	INSTA	ALLATION OF <b>SIDE PLATE TO</b>	USS SIM	ULATOR					
22.1	to be in	e the SIDE PLATE for installation.  Installed; clean the parts to be installed be installed dry on the clean towe	led with Iso						
22.2	and wa	e screws and washer to be used for asher visual inspection; clean screw and let screws and washers dry on a	s and wash	ers in an Isoprop					
22.3		m a visual inspection of the USS Serts to be used. If necessary clean to							
22.4	Weight all the hardware to be installed, including fasteners. Record the weight								
		ITEM	WEIGHT						
	SCAL	E							
22.5	PN_	M#	(	Cal Date					
22.6	of th	RNING: TTCB installation referentis ATS.  fy before use the availability of the	_						

	AMS-02 TASK SHEET (ATS)	4. ATS NO.	5. Page 102 of 116 ATS 090127-1-R0
	CONTINUATION PAGE	6. MOD NO.	
OPER	21. OPERATIONS (Print, Type, or Write Legibly)		VERIFICATION  22. TECH   23. QA/DV
22.6.1	Check the bill of material in the assembly drawing	g.	
22.6.2	Only when indicated in drawing apply a thin layer between washers and base plate and or component		mer in
	Koropron primer - PN Lot#	_ Exp. Date	
	(Nut)NAS1789C4M  Thermal Washer -15.6 14 x 6.7 x 3  Thermal Washer -15.7 14 x 6.7 x 4  (Screw)NAS1351N4-20  X 11	3.2.1	15.7 18x
	Figure 4: Connection side plate to USS simulator		

					5. Page 103		16
	AMS-02 TASK SH	• •		4. ATS NO.	ATS	090127-1	-R0
	CONTINUATION	N PAGE		6. MOD NO.			
20. OPER SEQ. NO.		21. OPERA (Print, Type, or V				VERIFIC 22. TECH	CATION 23. QA/DV
22.7	Install the fasteners as pe			rs lot number	(write by	22. 12011	23. QA/DV
	hand) USE INSTALLATION		СИТ ВОГ	TC AT AIDC			
	Bolt/washer/nut and nun			LOT			
			LC	OT#			
			LC	)T#			
			LC	)T#			
			LC	OT#	<u>.</u>		
	LOT#						
	LOT#						
	LOT#						
	LOT#						
			LC	)T#			
22.8	Torque the fasteners inst torque values are shown						
	torque varues are snown						
	Dash Number	Torque (in*lbf)					
	Dubii i tunio vi	Max	Min				
	NAS1351N4-20	102.375	87.019	<u>,                                    </u>			
22.9	Check this value with the	e table at the end	of this ATS				
	Locking torque shall be	in between 3.5-30	) inch*lbf (	size 0.250).			
22.10	Check this value with Ta	able 1 at the start	of this ATS				
	Final torque shall be the	seating torque Al	BOVE LOC	KING TORQ	UE.		

### 116 5. Page 104 ATS 090127-1-R0 **AMS-02 TASK SHEET (ATS)** 4. ATS NO. **CONTINUATION PAGE** 6. MOD NO. VERIFICATION 20. OPER SEQ. NO. 21. OPERATIONS (Print, Type, or Write Legibly) 22. TECH 23. QA/DV 5% precision on torque. (Nut)NAS1789C4M SP USS 1 .... SP USS 11 Thermal Washer -15.6 $14 \times 67 \times 3$ Thermal Washer -15.7 $14 \times 67 \times 4$ (Screw)NAS1351N4-20 X 11 Torque Wrench- Locking Torque (locking is the same as running torque) Torque Wrench- Final Torque M# \_\_\_\_\_ Cal Due Date\_\_ **Bolt indication (see figure above)** Locking Torque **Final Torque**

## 5. Page 105 116 ATS 090127-1-R0 **AMS-02 TASK SHEET (ATS)** 4. ATS NO. **CONTINUATION PAGE** 6. MOD NO. VERIFICATION 20. OPER SEQ. NO. 21. OPERATIONS (Print, Type, or Write Legibly) 22. TECH 23. QA/DV Bolt indication (see figure above) Locking Torque **Final Torque** End of online operation side plate to USS AMS Assembly Task Sheet (ATS) Continuation Rev 9/25/06 JH

						16
Al		SHEET (ATS)  1. ATS NO.  1. ATS 090127-1-  1. OPERATIONS (Print, Type, or Write Legibly)  DUMMY START-UP RADIATOR TO USS  21. OPERATIONS (Print, Type, or Write Legibly)  DUMMY START-UP RADIATOR PLATE for installation. Perform the parts to be installed; clean the parts to be installed with d let the parts to be installed dry on the clean towel rasher to be used for the part installation. Perform a screws pection; clean screws and washers in an Isopropyl Alcohol and washers dry on a clean towel  Dection of the BASE PLATE AND SIDE PLATE INSERTS of all the inserts to be used. If necessary clean them with	-R0			
	CONTINUATION PAGE		6. MOD NO.			
				1	VERIFIC 22. TECH	CATION 23. QA/DV
		UP RADIA	ATOR TO USS			20. 4.121
a visua	al inspection of the parts to be instal	lled; clean	the parts to be in	stalled with		
and wa	asher visual inspection; clean screw	s and wash	ers in an Isopro			
check	the cleanliness of all the inserts to					
, voign	ITEM					
		(	Cal Date			
	INSTA SIMUL Prepar a visua Isopro Prepar and wa bath an Perform check Isopro Weight	INSTALLATION OF DUMMY START-SIMULATOR  Prepare the DUMMY START-UP RADIA a visual inspection of the parts to be install Isopropyl Alcohol and let the parts to be in Prepare screws and washer to be used for and washer visual inspection; clean screw bath and let screws and washers dry on a Perform a visual inspection of the BASE check the cleanliness of all the inserts to Isopropyl Alcohol  Weight all the hardware to be installed,  ITEM  SCALE	INSTALLATION OF DUMMY START-UP RADIA SIMULATOR  Prepare the DUMMY START-UP RADIATOR PLA a visual inspection of the parts to be installed; clean isopropyl Alcohol and let the parts to be installed dry Prepare screws and washer to be used for the part ins and washer visual inspection; clean screws and washbath and let screws and washers dry on a clean towel Perform a visual inspection of the BASE PLATE A check the cleanliness of all the inserts to be used. Isopropyl Alcohol  Weight all the hardware to be installed, including  ITEM WEIGHT  SCALE	INSTALLATION OF DUMMY START-UP RADIATOR TO USS SIMULATOR  Prepare the DUMMY START-UP RADIATOR PLATE for installati a visual inspection of the parts to be installed; clean the parts to be installed dry on the clean to Prepare screws and washer to be used for the part installation. Perfor and washer visual inspection; clean screws and washers in an Isoprop bath and let screws and washers dry on a clean towel  Perform a visual inspection of the BASE PLATE AND SIDE PLAC check the cleanliness of all the inserts to be used. If necessary cle Isopropyl Alcohol  Weight all the hardware to be installed, including fasteners. Recombined the parts of the part installation of the BASE PLATE AND SIDE PLAC check the cleanliness of all the inserts to be used. If necessary cle Isopropyl Alcohol  Weight all the hardware to be installed, including fasteners. Recombined the parts of the part installation.	AMS-02 TASK SHEET (ATS) CONTINUATION PAGE  21. OPERATIONS PHER. Type, or White Legibly)  INSTALLATION OF DUMMY START-UP RADIATOR TO USS SIMULATOR  Prepare the DUMMY START-UP RADIATOR PLATE for installation. Perform a visual inspection of the parts to be installed; clean the parts to be installed with Isopropyl Alcohol and let the parts to be installed dry on the clean towel  Prepare screws and washer to be used for the part installation. Perform a screws and washer visual inspection; clean screws and washers in an Isopropyl Alcohol bath and let screws and washers dry on a clean towel  Perform a visual inspection of the BASE PLATE AND SIDE PLATE INSERTS check the cleanliness of all the inserts to be used. If necessary clean them with Isopropyl Alcohol  Weight all the hardware to be installed, including fasteners. Record the weight  ITEM WEIGHT  SCALE  SCALE	AMS-02 TASK SHEET (ATS) CONTINUATION PAGE  21. GPERATIONS PHOR. TYPES, O' WIND Legibly)  22. TECH  23. TECH  24. MCD NO.  25. MCD NO.  26. MCD NO.  27. GPERATIONS PHOR. TYPES, O' WIND Legibly)  27. TECH  28. TECH  INSTALLATION OF DUMMY START-UP RADIATOR TO USS SIMULATOR  Prepare the DUMMY START-UP RADIATOR PLATE for installation. Perform a visual inspection of the parts to be installed, clean the parts to be installed with Isopropyl Alcohol and let the parts to be installed dry on the clean towel  Prepare screws and washer to be used for the part installation. Perform a screws and washer visual inspection; clean screws and washers in an Isopropyl Alcohol bath and let screws and washers dry on a clean towel  Perform a visual inspection of the BASE PLATE AND SIDE PLATE INSERTS check the cleanliness of all the inserts to be used. If necessary clean them with Isopropyl Alcohol  Weight all the hardware to be installed, including fasteners. Record the weight  ITEM WEIGHT  WEIGHT  SCALE

			5. Page 107	of 1	16
	AMS-02 TASK SHEET (ATS)	4. ATS NO.		)90127-1	
	CONTINUATION PAGE	6. MOD NO.			
20. OPER SEQ. NO.	21. OPERATIONS (Print, Type, or Write Legibly)			VERIFIC 22. TECH	CATION 23. QA/DV
23.6	WARNING: TTCB installation reference drawing of this ATS. Verify before use the availability of				
23.6.1	Check the bill of material in the assembly drawin	g.			
23.6.2	Only when indicated in drawing apply a thin laye between washers and base plate and or componer		mer in		
	Koropron primer - PN Lot#	_Exp. Date			
23.6.3	Install the indicated components as shown in the				
	(Screw)NAS1351N3-16  (Washer)NAS1149E0363R  X 16  Thermal Washer -15.5 12.8x5x4  N 32	5.5 32x	6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6		6
	Figure 4: Connection radiator plate to base plate TAKE NOTICE THE DUMMY RADIATION THIS PICTURE. USE HOWEVER THE SUMBERING	TOR IS NOT S			
23.6.4	Apply a thin layer of Grease, Braycote 601EF (C prior the installation (as reported on the assembly		of each bolt		
	Braycote Grease - PN Lot#	Exp. Date			

				100	1	1.0			
				5. Page 108	of 1 090127-1-	16 PO			
	AMS-02 TASK SHEET (A	ATS)	4. ATS NO.	AIS	090127-1-	·NU			
	CONTINUATION PAGE		6. MOD NO.						
			O. MOD NO.		VEDIEIC	ATION			
20. OPER SEQ. NO.		21. OPERATIONS (Print, Type, or Write Legibly)			VERIFIC 22. TECH	23. QA/DV			
						20. 47121			
23.7	Install the fasteners as per figure	e 4 and record faster	ners lot number (v	write by					
	hand) USE INSTALLATION BOLTS	NOT ELICIT DO							
	Bolt/washer/nut and number	NAS number	LOT						
	Both Washer, nat and name of		201						
		I	LOT#						
		I							
		I	LOT#						
	LOT#								
		LOT#							
		LOT#							
		I	LOT#						
		Ī	_OT#						
			LOT#						
		·	20111						
23.8	Torque the fasteners installed in torque values are shown in below		the final torque va	alue. Seating					
	Deale Namel	To	rque (in*lbf)						
	Dash Number	Max	Min	l					
	Screw	42.237	35.90	11					
	NAS1351N3-16	42.237	33.90	'I					
23.9	Check this value with the table a	at the end of this A	ΓS.						
	Locking torque shall be in between	een <b>2.0-18 inch*lb</b> f	f (size 0.190).						
23.10	Check this value with Table 1 at Final torque shall be the seating			JE.					

### 5. Page 109 116 ATS 090127-1-R0 **AMS-02 TASK SHEET (ATS) CONTINUATION PAGE** 6. MOD NO. VERIFICATION 20. OPER SEQ. NO. 21. OPERATIONS (Print, Type, or Write Legibly) 22. TECH 23. QA/DV 5% precision on torque. (Screw)NAS1351N3-16 (Washer)NAS1149E0363R X 16 Thermal Washer -15.5 $12.8 x^{\alpha} x 4$ Torque Wrench- Locking Torque (locking is the same as running torque) Torque Wrench- Final Torque **Bolt indication (see figure above)** Locking Torque **Final Torque**

## 5. Page 110 116 ATS 090127-1-R0 **AMS-02 TASK SHEET (ATS)** 4. ATS NO. **CONTINUATION PAGE** 6. MOD NO. VERIFICATION 20. OPER SEQ. NO. 21. OPERATIONS (Print, Type, or Write Legibly) 22. TECH 23. QA/DV Bolt indication (see figure above) Locking Torque **Final Torque** End of online operation dummy radiator plate installation

					5. Page 111		16			
	Al	MS-02 TASK SHEET (ATS)		4. ATS NO.	090127-1	-R0				
		CONTINUATION PAGE		6. MOD NO.						
20. OPER		21. OPERA	ATIONS			VERIFIC	CATION			
SEQ. NO.		(Print, Type, or V	Write Legibly)			22. TECH	23. QA/DV			
4.	INST.	ALLATION OF <b>Cover to Base pl</b> a	ate							
24.1	installe	e the Cover for installation. Performed; clean the parts to be installed with alled dry on the clean towel								
24.2	and wa	repare screws and washer to be used for the part installation. Perform a screws and washer visual inspection; clean screws and washers in an Isopropyl Alcohol ath and let screws and washers dry on a clean towel								
24.3		m a visual inspection of the CO UTS. If necessary clean them with l			ss of all the					
24.4	Weigh									
		ITEM	WEIGHT							
	SCAL	Æ								
24.5	PN_	M#		Cal Date	·					
	1					1	1			

		5. Page 112 of 116
AMS-02 TASK SHEET (ATS) CONTINUATION PAGE	4. ATS NO.	ATS 090127-1-R0
	6. MOD NO.	

	CONTINUATION PAGE	6. MOD NO.				
20. OPER						
24.6	WARNING: TTCB installation reference drawing of this ATS.  Verify before use the availability of the approved			22. TECH	23. QA/DV	
24.6.1	Check the bill of material in the assembly drawin	g.				
24.6.2	Only when indicated in drawing apply a thin laye between washers and base plate and or component Koropron primer - PN Lot#	ıt.				
24.6.3	Install the indicated components as shown in the					

## 5. Page 113 116 ATS 090127-1-R0 **AMS-02 TASK SHEET (ATS) CONTINUATION PAGE** 6. MOD NO. VERIFICATION 20. OPER SEQ. NO. 21. OPERATIONS (Print, Type, or Write Legibly) 22. TECH 23. QA/DV (Screw) NAS1352N06-6 Figure 4: Connection of cover to base plate Apply a thin layer of Grease, Braycote 601EF (C1), to the threads of each bolt prior the installation (as reported on the assembly drawings). 24.6.4 Braycote Grease - PN \_\_\_\_\_ Lot#\_\_\_ Exp. Date \_\_\_\_ 24.7 Install the fasteners as per figure 4 and record fasteners lot number (write by hand) Bolt/washer/nut and number NAS number LOT \_\_\_\_LOT#\_\_\_\_

					5. Page 114	of 1	16
	AMS-02 TASK SHI	• •		4. ATS NO.	ATS (	090127-1	-R0
	CONTINUATION	PAGE		6. MOD NO.			127-1-R0  VERIFICATION
20. OPER SEQ. NO.			PERATIONS , or Write Legibly)			VERIFI 22. TECH	
			L	OT#			
			L	OT#			
			L	OT#			
			L	OT#			
			L	OT#			
			L	OT#			
			L	OT#			
			L	OT#			
24.8	Torque the fasteners instatorque values are shown i			ne final torque va	alue. Seating		
		Torque	(in*lbf)	1			
	Dash Number	Max	Min				
	Screw NAS1352N06-6	13.861	11.782				
24.9	Check this value with the	table at the en	nd of this ATS	- S.			
	Locking torque shall be in	n between <b>1</b> – 1	10 inch*lbf (	size 0.138).			
24.10	Check this value with Tal Final torque shall be the s 5% precision on torque.				JE.		

## 116 5. Page 115 ATS 090127-1-R0 **AMS-02 TASK SHEET (ATS)** 4. ATS NO. **CONTINUATION PAGE** 6. MOD NO. VERIFICATION 20. OPER SEQ. NO. 21. OPERATIONS (Print, Type, or Write Legibly) 22. TECH 23. QA/DV Cov toB 2 Cov toB 1 Torque Wrench- Locking Torque (locking is the same as running torque) PN \_\_\_\_\_ M# \_\_\_\_ Cal Due Date\_\_\_\_\_ Torque Wrench- Final Torque Bolt indication (see figure above) Locking Torque Final Torque 24.11 End of online operation cover to base plate rivnut

#### 

#### 25. Appendix 1: Seating Torque Values (2009\_01\_09)

Max and Min torque summary of TTCS Parts issue 20090109								
	Bolt		Insert/Nut		Washer			
							Torque	e(in*lbf)
Joints	Dash Number	Number	Dash Number	Number	Dash Number	Number	Max	Min
TRD_Brackets_TTCB_Shar ed	NAS1351N4-24	9	MS21209 F4-15	9	NAS1587-4	9	102.375	87.019
Base plate &USS	NAS1351N4-16	12	MS21209F4-15	12	NAS1587-4	12	102.375	87.019
Side plate &USS	NAS1351N4-20	11	NAS1789C4M	11	no	11	102.375	87.019
Start up radiator &base/sideplate	NAS1351N3-16	16	MS21209F1-25	16	NAS1149E0363R	16	42.237	35.901
	NAS1352N08-8	10	MS21209C0820	10	NAS1149EN832R	10	24.944	21.203
cover &base	NAS1352N06-6	2	NAS1330-06-106	2	no	0	13.861	11.782
Accumulator bracket &base plate	NAS1351N3-16	8	MS21209F1-15	8	NAS1149E0363R	8	42.237	35.901
Pump Bracket &start up radiator	NAS1352N06-10	8	NAS1291C06M	8	NAS1149EN532R	8	13.861	11.782
Aps/Dps &Base plate	NAS1352N08-14	8	MS21209C0820	8	NAS1149EN832R	8	24.944	21.203
HX& Base plate	NAS1351N3-16	8	MS21209 F1-15	8	NAS 620 10 LC	8	42.237	35.901
Cold orbit heater &base plate	NAS1352N08-10	4	MS21209C0820	4	NAS1149EN832R	4	24.944	21.203
Controller &base plate	NAS1351N3-10	6	MS124695 10- 32X1.5dia	6	no	0	42.237	35.901
Cover&CoverRibs	NAS1352N06-6	25	NAS1330-06-106	25	NAS1149EN532R	25	13.861	11.782
Cover Rib&Baseplate	NAS1352N06-12	2	NAS1330-06-106	2	no	0	13.861	11.782
Preheater&Baseplate	NAS1352N04-LB-6	8	no	0	no	0	7.459	6.34
ConnectorsPlate&Cover	NAS1352N06-6	10	NAS1330-06-106	10	NAS1149EN532R	10	13.861	11.782
PressSensors&Cover	NAS1352N06-8	8	MS21209C0620	8	no	0	13.861	11.782
PipeClamp&BasePlate	NAS1352N08-8	4	MS21209C0820	4	no	0	24.944	21.203
PipeClamp&PipeClamp	NAS1352N06-6	8	MS21209C0610	8	no	0	13.861	11.782
ClampBracker&Collar	NAS1351N08-LB14	7	no	0	NAS1149EN832R	7	26.863	22.834
Pipe-Fix&Clamp	NAS1351N06-10	8	MS21209F0625	8	NAS1149EN532R	8	15.662	13.312
Press&Saddle	NAS1351N08-12	8	MS21209F0820	8	NAS1149EN832R	8	26.863	22.834
Pipe clamp and cover	NAS1352N06-12	2	NAS1330-06-106	2	no	0	13.861	11.782